FIRE ENGINEERING

OHIO STATE UNIVERSITY
JAN 30 1958
LIBRARY

The Journal of the Fire Protection Profession Since 1877

JANUARY, 1958

Manhattan fire fighters control threatened conflagration as hell erupts on busy Broadway—*Hellriegel-Heffernan, NYFD photo*

IN THIS ISSUE...

Fire Fighters Practice Scientific House Wrecking

Mass Mobilization at Meraux Refinery Conflagration

Use of 4-Inch Hose Capitalizes Hydrant Flow to Limit

BY THE TON . . . . . SHIPMENT OF 80 EMERSON RESUSCITATORS *for* NEW YORK CITY

SEPTEMBER 26, 1957

Emersons save lives. You can count on them for long, exacting service.

Emersons are rugged, with big enough internal parts to keep going and maintain true pressure settings.

Emersons are simple to operate. In emergencies time cannot be wasted on complicated controls.

Emersons are safe and effective. No injury has ever been recorded from the pre-set pressures (about 5 oz. positive and 3 oz. negative) and innumerable lives have been saved.

Emersons are adaptable. Extension hoses can be coupled instantly, to reach victims in difficult locations. Hundreds of feet from the oxygen tanks you can give resuscitation, inhalation, and aspiration—TO SAVE LIVES.

J. H. EMERSON COMPANY

22 COTTAGE PARK AVENUE, CAMBRIDGE 40, MASSACHUSETTS

TH9111
F43

Double Brilliance-Double Value!

The *New* FEDERAL Model 171 Beacon Ray Light

It looks just like the regular number 17 Beacon Ray, in a picture. It looks just like it mounted on your truck.

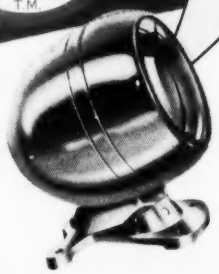
But . . . like the better automobile, it's not what it *looks* like but what's under the hood that makes the difference in performance.

Emergency vehicles in modern traffic are more and more dependent on warning lights. The new 171 Beacon Ray's flashes are not twice as bright, but *many times brighter* than the 1957 standard.

Here is the new Super Beacon Ray with super beam, super range, super brilliance.

If you want super visual protection, write for information on the new FEDERAL Model 171.

FEDERAL Solar-Ray light



NEW FEDERAL SOLAR-RAY LIGHT

For those who want to mix some white-light action ahead with their red warning beams; the new Solar-Ray forward projection, revolving beam, white warning light, throws forward an intense revolving blade of pure white light. Whatever its value, if you want a *different effect* and an additional warning light, *FEDERAL has it.* Ask about the model 19C today.

FEDERAL SIGN and SIGNAL Corporation

8702 S. State Street, Chicago 19, Ill.

FIRE ENGINEERING

VOL. 111 JANUARY, 1958 NO. 1

IN THIS ISSUE

Ground All Homemade Rockets?—*An Editorial* 29
By Roi B. Woolley

San Francisco's Fire Fighters Practice Scientific House Wrecking 30

Mass Mobilization at Meraux Controls Costly Refinery Conflagration 33

How to Handle the Pesky Mail Box Fire 35

Use of 4-Inch Hose Capitalizes Hydrant Flows to the Limit 36

Gas Geyser Erupts on Busy Broadway 38

Dramatic Pittsburgh Rescue Operation Averts Possible Catastrophe 39

Rags and Rubber Blaze Taxes New Brunswick, N. J., Area Volunteers 40
By William C. Peck

Norfolk Fire Chief Injured Fighting Firehouse Fire 41

DEPARTMENTS

Manufacturers' News	48	Persons in the News	62
Short Cuts and Gadgets	50	Watch Desk	65
False Alarms	52	Obituaries	67
Among the Buffs	54	Our Readers Write Us	68
Questions and Answers	56	The Round Table	70
What's Burning?	57	World-Wide Fire News	72

Inveniemus Viam Aut Faciemus

On the Memorial Gateway of the University of Pennsylvania is inscribed that motto: "We shall find a way or we shall make one."

The sentiment may well be the escutcheon of the modern fire fighter.

Today's fireman faces problems of scientific fire control and extinguishment beyond the worst nightmares of his forefathers. Problems that multiply with the widening electronic, chemical and atomic applications; that spell wholesale danger to life and property. (Read the editorial in this January issue.)

How and where is he to be schooled and trained in these hazards and the proper methods of coping with them?

One answer is to study FIRE ENGINEERING. For over 80 years it has helped fire fighters to take and face up to fire control and extinguishment problems as they develop—and to anticipate some of them.

In the months ahead, FIRE ENGINEERING's readers will find editorial and advertising content tuned in on these perplexing problems of the day—and the morrow.

Keep your copies at hand for ready reference. And suggest that your fellow fire fighters do likewise.

A subscriber - fire - fighter says, "we take FIRE ENGINEERING for every one of our fire stations. It is our favorite source of information pertaining to our job."

The Publishers

I. HERBERT CASE, *General Manager*
FRED SHEPPERD, *Editorial Director*
ROI B. WOOLLEY, *Editor*
ALFRED J. HOUGHTON, *Advertising Director*

WALTER FREDRICKS, *Asst. to the Gen. Mgr.*
DONALD M. O'BRIEN, *Associate Editor*
D. P. FERGUSON, *Managing Editor*
ROLLIN NELSON, *Presentation Editor*

EDWARD R. CLARK, *Production Manager*
L. C. WEISSLEDER, *Editorial Assistant*
E. B. HAPPE, *Subscription Manager*
RAY M. CARACHER, *Presentation Assistant*

FIRE ENGINEERING is published the fifteenth of each month by the Case-Shepperd-Mann Dept. Business Papers Division, The Reuben H. Donnelley Corporation, 305 East 45th Street, New York 17, N. Y.

David L. Harrington, Chairman of the Board; Gaylord Donnelley, Vice Chairman of the Board; Curtiss E. Frank, President; Albert M. Andersen, Executive Vice President; Donald R. Arnold, Operating Vice President; Harold P. Harper, Hamilton B. Mitchell, Giles B. McCollum, Noble Hall, Evert F. Nelson, Edward A. O'Rorke, Schuyler D. Haslett, James H. Evans, Vice Presidents; Fred C. Ash, Secretary-Treasurer and General Counsel; Karl G. Clement, Controller. Edward B. Wintersteen, Executive Manager, Business Papers Division. Publication Office: 109 W. Chestnut St., Lancaster, Pa.

Eastern Representative: William J. Gibson; Chicago: 14 E. Jackson Blvd., L. M. Roche, Richard H. Baum; Los Angeles: 6000 Miramonte Blvd., August Haurin.

Copyright 1958 Business Papers Division, The Reuben H. Donnelley Corporation. Entire contents of this publication covered by general copyright. All rights reserved. Title registered in U. S. Patent Office. Fire Engineering is a consolidation of Fire and Water Engineering, The Fire Engineer, Fire Protection and Fire Service.

Subscription Rates: U. S. and Canada, $3.50 a year; Pan-American and Foreign, $4.50; Single copy, 40¢. Change of address should reach us one month in advance. Printed in U.S.A. Second class mail privileges authorized at Lancaster, Pa., January 27, 1956.

MAIL CHANGES OF ADDRESS and subscription orders to Fire Engineering, 305 East 45th Street, New York 17, N. Y. Please include your city delivery zone number.

FABRILON

WITH DOUBLE-SURFACE JACKETS

DOUBLE-SURFACE MEANS DOUBLE-SERVICE

This is a magnified cross-section cut length wise through a FABRILON hose jacket. The cabled warp strands are shown closely interwoven with FABRILON filler cords in FABRIC's exclusive *twill woven* construction.

For every stitch that is inside there are *two* on the outside, which means that *twice* as much material is on the *outside* of the jacket, producing a smooth, *double-wearing* surface attained only in our *twill woven* FABRIC jackets.

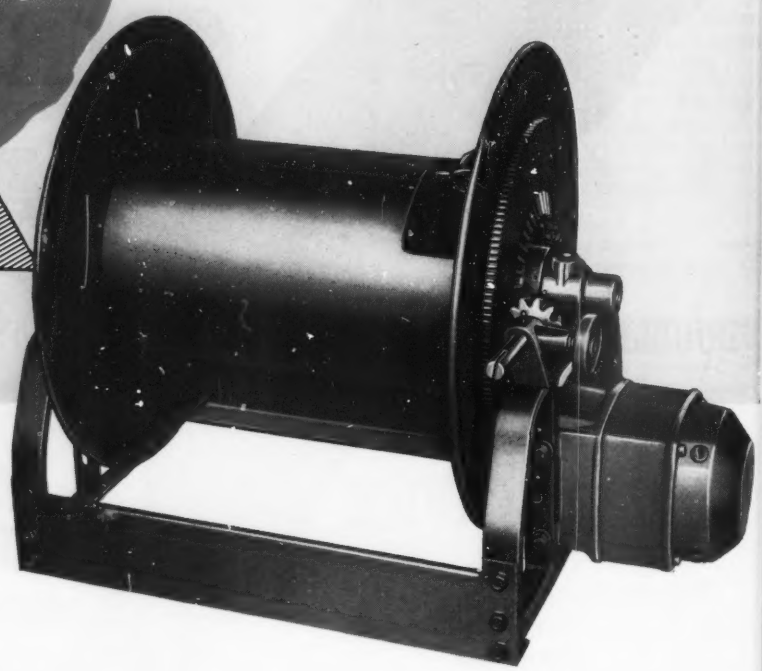
FABRIC FIRE HOSE COMPANY

THE ONLY EXCLUSIVE MANUFACTURER OF FIRE HOSE IN AMERICA

SANDY HOOK CONNECTICUT

IN CANADA *Pierre Thibault* CANADA, LTD., LTEE., PIERREVILLE, QUEBEC

FIRST in engineering leadership



Strong, Swift, Sure,
Precision Built
Underwriters' Approved
Competitively Priced

THE RUGGED STRENGTH of these great Fire Fighting Reels is more than a match for the most severe service to which they can be subjected.

FRAMES are of channel steel, end-welded and angle-braced—extra strong, yet flexible enough to absorb road shocks.

DRUMS are of heavy 11-gauge steel, smooth-seamed and arc-welded for perfect roundness, and reinforced with a series of heavy steel rods.

HIGH PRESSURE SWING JOINTS and piping will withstand pressures in excess of 1,000 pounds. Standard swing joints and piping will withstand pressures up to 1,000 pounds.

GEAR-TO-GEAR DRIVE assures smooth, positive power transmission — eliminates adjustment and alignment problems of chain drives.

EXPLOSION PROOF MOTORS are of exclusive design — compact, powerful, efficient — Underwriters' Approved for all electrical systems.

ALSO DUAL-REEL, starter-motor, and hand-wind models — with or without hose rollers. Distributors in principal cities. Complete catalog on request. Write, wire or phone.

ardmore products

Northbrook, Illinois
CRestwood 2-5000

B.F.Goodrich

B.F.Goodrich hose handles easier—even in cold, wet weather

IF you've ever wrestled with a heavy, waterlogged fire hose, or had hose stick to the pavement in freezing weather, you'll appreciate Superseal-protected B.F.Goodrich hose.

The Superseal treatment, developed by B.F.Goodrich, gives the hose jacket maximum protection against moisture absorption and freezing. Unlike ordinary treatments that just coat the surface of the hose, the exclusive B.F. Goodrich Superseal solution penetrates every cord in both the inner and outer jacket, prepares the hose for all sorts of weather.

What's more, this special chemical protection also provides 10 times more resistance to mildew attack and rotting than any other treated hose, and increases its resistance to fire. And most important, the B.F.Goodrich Superseal treatment costs no more than ordinary hose treatments.

Treated fire hose is important in the Chicago suburb of Evergreen Park, where the firemen pictured above are called out on many cold, wet days. For the past 20 years they've used B.F. Goodrich hose because they are convinced it lasts longer. Other advantages of B.F.Goodrich Fire King hose, according to Chief Leroy Howatt (second from left), are its flexibility, light weight and ability to stand high pressure.

For a hose that will last longer, specify B.F.Goodrich hose with Superseal protection. Your B.F.Goodrich fire hose distributor can tell you more about it, or write *B.F.Goodrich Industrial Products Co., Dept. M-250, Akron 18, Ohio.*

B.F.Goodrich

INDUSTRIAL PRODUCTS

Mack "perfect pair"

THE PERFECT PAIR. Now, the most dependable powerplant in the fire-fighting field—the 276-hp Mack Thermodyne® engine—has been teamed up with the first automatic transmission ever supplied with custom fire apparatus.

automatic transmission plus Mack powerplant

Mack is first again! First to build and deliver custom fire engines with automatic transmissions. These transmissions more than earn their way in improved performance, in faster running times, in easier handling, and in reduced maintenance costs. Here's how:

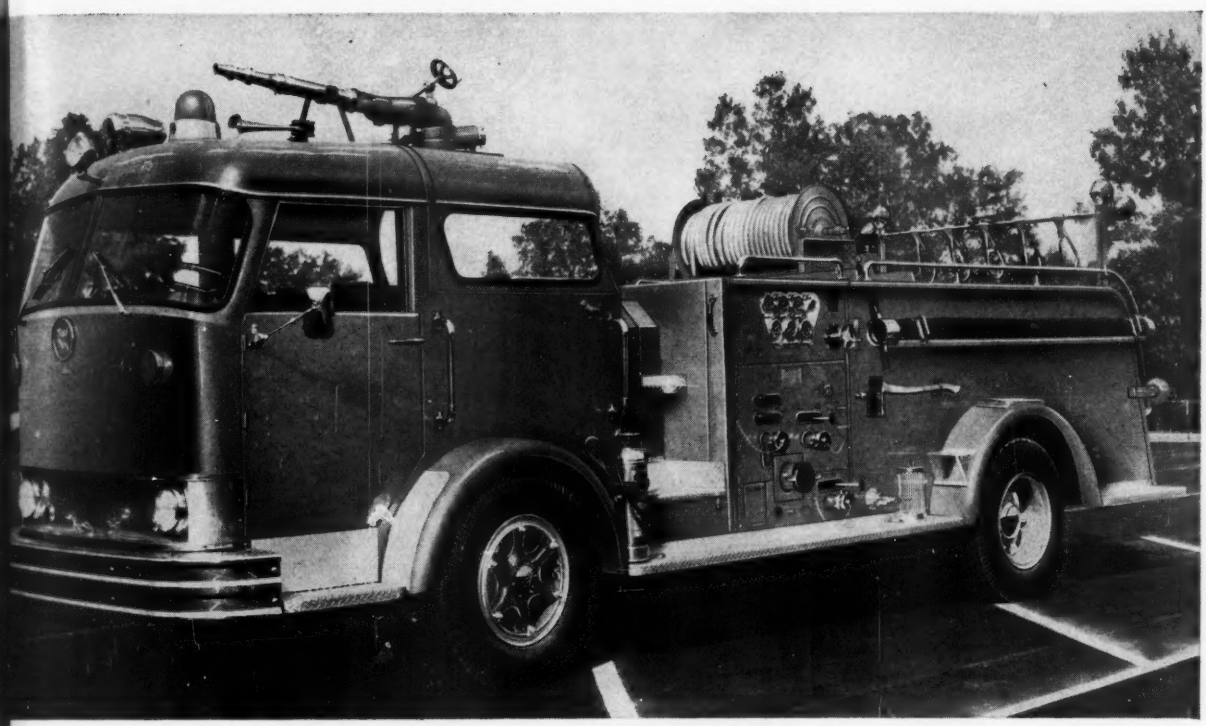
Smooth, unbroken flow of power through the entire acceleration range. No jerks, no jumps as the torque ratios move from over 5½ to 1 . . . to 1 to 1. As soon as the 1 to 1 ratio is reached, engine power is automatically transferred—with no interruption—to direct drive, by-passing the converter entirely and eliminating the slippage common to automatic transmissions in this torque ratio. Acceleration from 0 to 35 mph in 16 seconds.

Non-shift operation, not only through the entire torque ratio range, but in and out of direct drive as well. The speed at which this transfer occurs is controlled by an adjustable governor, permitting you to pick the most efficient direct-drive speed for the type of vehicle and type of service.

Hydro-dynamic braking that can increase normal engine braking power up to 400% when in automatic drive.

Non-stall operation. Full torque of the engine is immediately available even when the vehicle

COMPLETE LINE OF PUMPERS—500 TO 1250 GPM . . . SQUAD AND HOSE



Mack's new cab-forward triple combination pumper with Mack automatic transmission and famous Mack Thermodyne® engine —the "perfect pair." 5-man canopy cab. 1250-GPM cab-mounted portable deluge nozzle, 375-gallon booster tank, 300 feet 1" booster hose and fog nozzle.

give *finest fire apparatus performance*

is standing still or inching along in traffic. Engine cannot lug or stall, absorbs no sudden shocks from fast accelerations, greatly increasing life of the entire power train.

Shorter training periods for new drivers—drives like the family car. And clutches can't be burned out, gears can't be stripped by inexperienced men.

Direct drive pumping by-passes the transmission, feeds 100% of engine power to the pumping unit.

Whether you're interested in purchasing the most modern, efficient equipment available . . . or whether you'd like to keep abreast of the latest developments in fire-fighting equipment—you'll want to hear more about Macks with automatic transmissions. Get in touch with your Mack representative today. Mack Fire Apparatus, Plainfield, New Jersey. In Canada: Mack Trucks of Canada, Ltd.

MACK
first name for
FIRE APPARATUS

5606

WAGONS . . . AERIALS 65' TO 100' . . . COMBINATION LADDER TRUCKS

"THERE'S NO SUBSTITUTE FOR THE BEST MEN

...OR THE FINEST RADIO EQUIPMENT"

Maximum fire protection demands maximum effectiveness. Your firemen—dependable, able, and ready at a moment's notice—must have equipment of the same qualifications. Every one of the parts that go into your 2-way radio must be the finest available . . . must be guaranteed for long life . . . must keep the radio working in all emergencies. No wonder 3 out of 4 of the nation's radio-equipped fire departments depend upon Motorola 2-way radio and HANDIE-TALKIE® radiophone.

In New York, Miami, Los Angeles, Chicago . . . and practically every other leading city and countless large and small communities . . . rugged Motorola radio is proving that it is engineered to give the most dependable 2-way communications.

In your city or town, Motorola is ready to help you multiply your department's efficiency and protection. Learn how these benefits can be applied to your own operation.

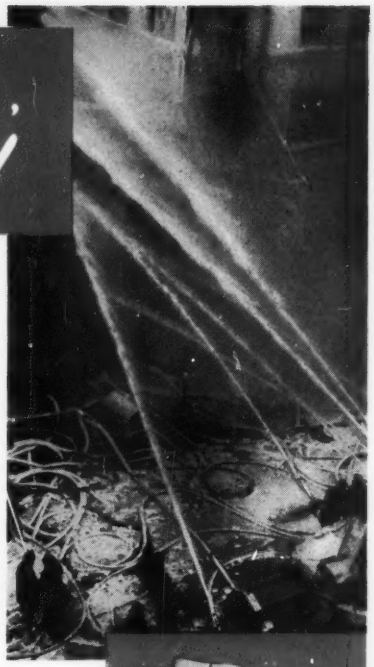
® Handie-Talkie is a Registered Trademark of Motorola, Inc.

MOTOROLA 2-WAY FIRE RADIO

MOTOROLA COMMUNICATIONS & ELECTRONICS, INC. • A Subsidiary of Motorola, Inc. • 4501 Augusta Blvd. • Chicago 51, Illinois

Makes Fire-Fighting Easier, Safer and More Efficient!

GOODALL "EZ flex"
THE *Modern* FIRE HOSE



UNDERWRITERS *and* FACTORY MUTUAL APPROVED FM

Here is an entirely different kind of fire hose . . . produced by Goodall for the fire fighters of the U. S. A. after more than fifteen years of outstanding service in England, France and Canada. Its name is "EZflex", and it provides a new concept of fire hose weight, strength and flexibility.

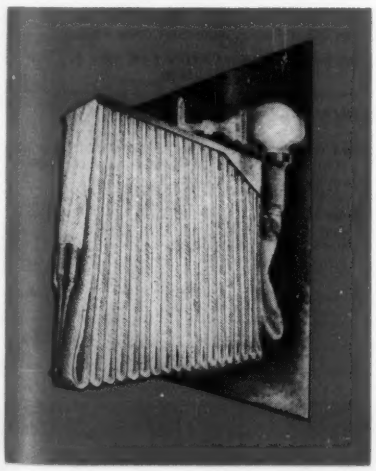
Stronger! Lighter! Longer Lengths!

JACKET—A combination of high-tensile fibres of outstanding strength, woven by a special process, assuring highest resistance to pressure, wear, weather and rough handling. Size-for-size, "EZflex" pressure-resistance is equal or superior to the heavier and stiffer conventional cotton jackets, despite its much lighter weight. The tightly woven fabric is virtually snagproof, and is treated to resist mildew.

LINING—A light-weight yet long-wearing reinforced rubber lining, bonded firmly to the surrounding jacket, and having a perfectly smooth waterway to insure a full, fast flow. In combination, the "EZflex" jacket and lining provide a fire hose far ahead of conventional types in strength, flexibility, durability, ease of handling, and economy.

"EZflex" is available in continuous lengths of 100 feet, which means fewer couplings. Single Jacket, sizes 1½" to 2½". Double Jacket, sizes 1½" to 3".

Illustration at right shows a 50 ft. coil of standard Cotton Rubber Lined Fire Hose weighing 21 lbs., compared with a 100 ft. coil of "EZflex" weighing only 19 lbs.



"DRI-RACK" FIRE HOSE. Used in place of Unlined Linen Hose for indoor protection wherever fire hose must be ready for reliable use after long periods of storage. Exceptionally light in weight and extremely flexible . . . folds into smaller space. No "weeping" while jacket is reaching maximum absorption, as with linen hose—all the water goes on the fire! SINGLE JACKET, Sizes 1½" and 2½". Maximum length, 100'. Underwriters and Factory Mutual Approved.

Contact Our Nearest Branch for Details and Prices.

Standard of Quality—Since 1870

HOSE • BELTING • FOOTWEAR • CLOTHING
AND OTHER INDUSTRIAL RUBBER PRODUCTS

GOODALL *Rubber Company*

GENERAL OFFICES, MILLS and EXPORT DIVISION, TRENTON, N. J.

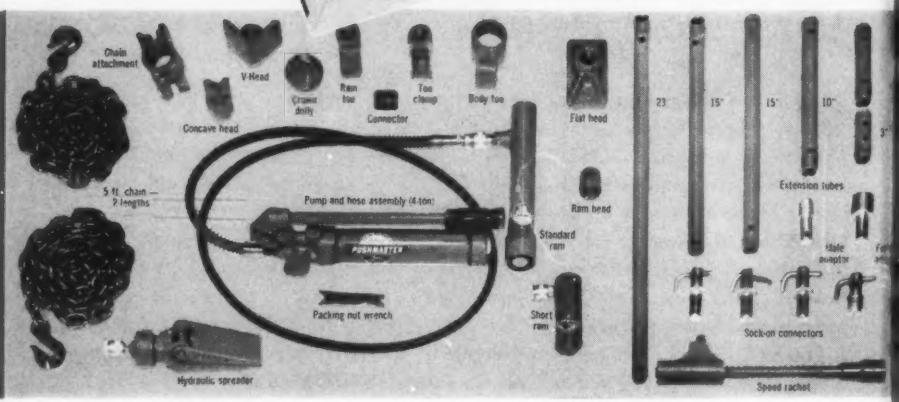
BRANCHES AND DISTRIBUTORS THROUGHOUT THE UNITED STATES.
IN CANADA: GOODALL RUBBER CO. OF CANADA LTD., TORONTO.

For the FASTEST *Rescue Work!*

TOOLS CLIPPED IN-PLACE

HEIN-WERNER

RESCUE KIT



Planned, engineered and built by the world's largest manufacturer of hydraulic jacks in co-operation with fire, police and safety authorities . . . Here is every tool you and your men will need for almost all rescue work in fires, traffic and industrial accidents . . . Tools clipped in-place instantly located. No jumbled parts to grope for when seconds count . . . Three handles on box for one and two-man carry . . . Ram extensions with quick couplers . . . Serrated bases on critical tools for firm anchorage . . . 4 TON CAPACITY.

DE LUXE KIT (shown above) contains the parts shown in panel. Price $129.95.

SENIOR KIT (not shown) contains all parts in De Luxe Kit except speed ratchet, short ram, chains and chain attachment. Price $99.65.

SPECIAL KIT (not shown) to meet Civil Defense specifications (CD VIII-156) to qualify for Federal matching funds for States and their political subdivisions under Standard Item Specification M6-1.

On next page is shown a rescue problem . . . Illustrated are two solutions: one with the Hein-Werner Rescue Kit; the other with older method tools. *The information may be of value and interest to your men for both methods are accepted.* IF YOU WOULD LIKE REPRINTS TO POST ON STATION BULLETIN BOARDS—Use the coupon to tell us the quantity you want. No charge.

And use the coupon too, to order either of the KITS — DeLuxe or Senior.

Hein-Werner Corporation, Waukesha, Wisconsin

Gentlemen:

☐ Rush ..... (quantity) free reprints of the page "How would your men save these trapped people."

☐ Rush complete information on H-W Rescue Kits.

☐ Ship at once the DeLuxe Rescue Kit. Price $129.95.

☐ Ship at once the Senior Rescue Kit. Price $99.65.

Prices subject to change without notice.
Price includes cost of shipping in the U.S.A.

Name .....

Company or Dept. .....

Address .....

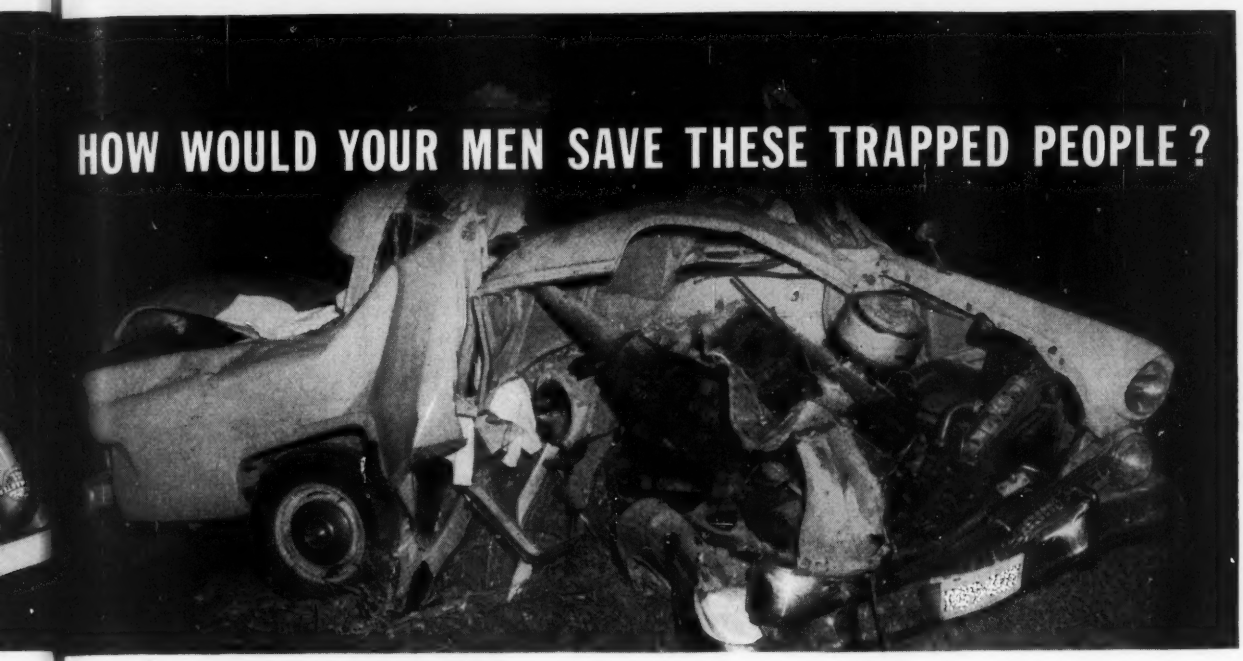
City ..... Zone ..... State .....

Enclosed (Check $ .....) (M. O. $ .....) (P. O. $ .....)

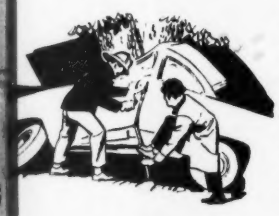
HEIN-WERNER CORPORATION WAUKESHA, WISCONSIN

World's Largest Manufacturer of Hydraulic Jacks

HOW WOULD YOUR MEN SAVE THESE TRAPPED PEOPLE?



Note: wreck above was more accessible from other side for both methods of entry. Illustrations below were taken from photos of the driver's side of car.



CONVENTIONAL IMPROVISED TOOLS

(Left) Use hack saw and pry-bar. Best technique is considered to be: saw at window ledge downward while pry-bar is used near bottom of door.

Both methods partially spring door to offer purchase for two men to force opening by hand.

Pry-bar under rear of front seat breaks two holding bolts, but fulcrum at floor level is somewhat insecure.

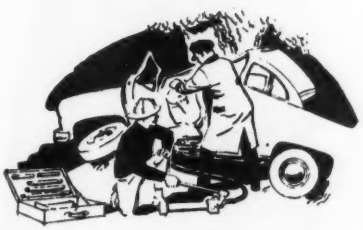
Crow bar is used to break passenger seat bolts. Because of distance and interference from drive shaft housing in floor it is difficult, but given time, these tools will free the occupants.

HEIN-WERNER METHOD

(Right)Hydraulic Spreader starts jammed door, opens it far enough to accommodate ram extension.

Second ram extension now provides ample room.

Hydraulic Speader is now used to break 2 bolts holding seat which has jammed car driver against steering wheel. Vertical movement of wedge prevents further injury and occupant can now be removed. Same operation with hydraulic spreader frees passenger jammed against instrument panel. This is by far the fastest method.



HEIN-WERNER CORPORATION WAUKESHA, WISCONSIN

World's Largest Manufacturer of Hydraulic Jacks

MIDWESTERN

Safety Clothing

for Men of ACTION!

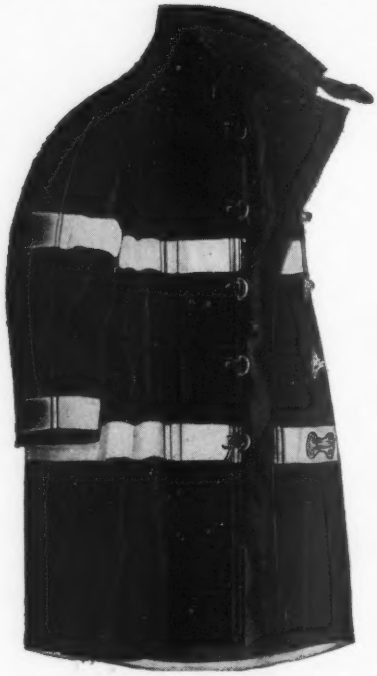
The Original MIDWESTERN

STRIPED SAFETY COAT

Reduces Accidents—Saves Lives

When working under hazardous conditions in smoke, fog, dust and darkness, you deserve the safety protection found *only* in the Midwestern Striped Safety Coat. The highly visible yellow stripes are *rubberized as part of the material* . . . not glued, painted or sewed on. Tests show that Midwestern yellow stripes retain their natural color and have the same durability as the black fabric.

There are many imitations but no substitute for the superior quality, design, fabric texture and outstanding safety features of MIDWESTERN SAFETY CLOTHING FOR FIREMEN!



NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN COMBINATION SAFETY SUIT

The Midwestern Rubberized Coat and Bunker Pants combination make it easy for firemen to keep both warm and dry even in the most severe weather. Close fitting collar and elastic inner sleeve keep out sparks and water. Pants have double-stitched seams, reinforcing rivets at points of strain. Both garments available with detachable wool linings.

For complete information on our full line of safety clothing for firemen, see your Midwestern dealer. A letter to the factory will also bring you literature and materials for your inspection.

MIDWESTERN SAFETY MFG. CO. Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Safety Coats**

CHIEF !!

DO YOU REALLY KNOW WHAT YOUR HEAVY STREAM EQUIPMENT WILL DO?

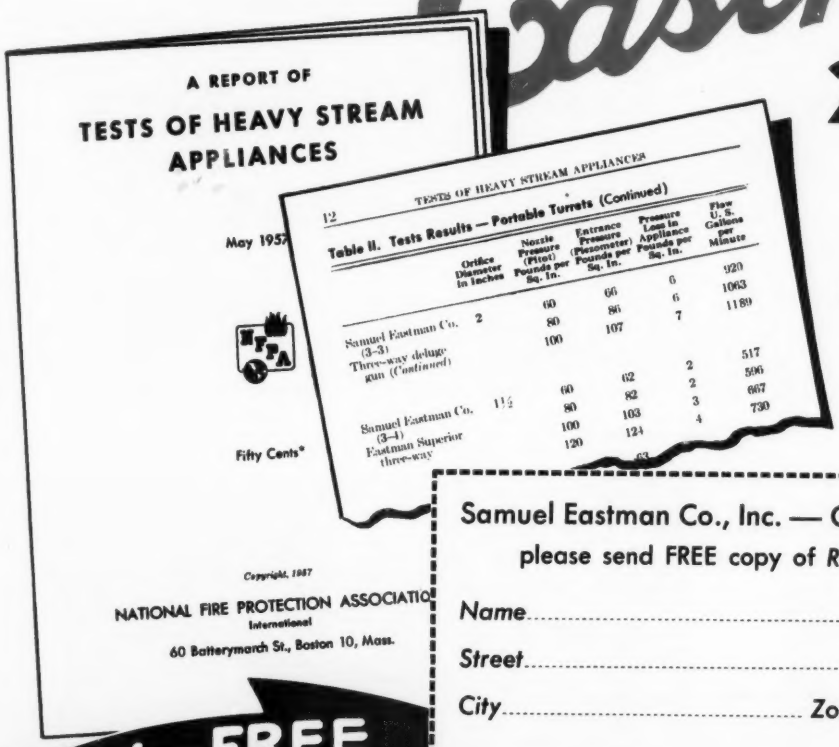
IMPORTANT TESTS at ROCHESTER by NFPA-IAFC

COMMITTEE ON FIRE DEPARTMENT EQUIPMENT

SHOW FACTS YOU SHOULD KNOW

You owe it to yourself and to your community to HAVE THE BEST!

Eastman


A REPORT OF
TESTS OF HEAVY STREAM APPLIANCES
May 1957
Fifty Cents*
Copyright, 1957
NATIONAL FIRE PROTECTION ASSOCIATION
International
60 Batterymarch St., Boston 10, Mass.
12 TESTS OF HEAVY STREAM APPLIANCES
Table II. Tests Results — Portable Turrets (Continued)
Orifice Diameter in Inches
Nozzle Pressure (Pitot) Pounds per Sq. In.
Entrance Pressure (Piezometer) Pounds per Sq. In.
Pressure Loss in Appliance Pounds per Sq. In.
Flow U. S. Gallons per Minute
Samuel Eastman Co. (3-3) Three-way deluge gun (Continued)
2
60 66 6 920
80 86 7 1063
100 107 1189
Samuel Eastman Co. (3-4) Eastman Superior three-way
1½
60 62 2 517
80 82 2 596
100 103 3 667
120 124 4 730

2 OR 3-way DELUGE GUNS

DESIGNED FOR YOUR NEEDS

Send for FREE copy of this test. Mail Coupon NOW!

Samuel Eastman Co., Inc. — Concord, N. H.
please send FREE copy of *REPORT OF TESTS*

Name.....

Street.....

City..... *Zone*..... *State*.....

We presently have ..... Deluge Guns
We do not have heavy stream equipment ☐
We contemplate ordering ..... Deluge Guns
We would like representative to call ☐

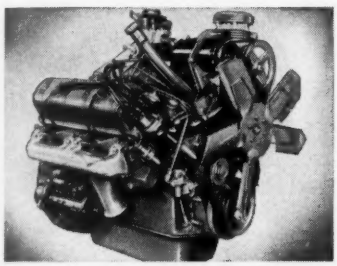
From the world's most complete truck line, INTERNATIONAL V-Line fire truck chassis are available with 206, 226, and 257 horsepower True Truck V-8 engines. There are twelve specialized models. Each model offers a choice of components and equipment to meet your needs *exactly*.

INTERNATIONAL all-wheel-drive rescue vehicles give you the traction and pull to meet the toughest on-and-off-highway conditions. There are new, more economical power plants and wide three-man cabs. Widest choice of components and equipment.

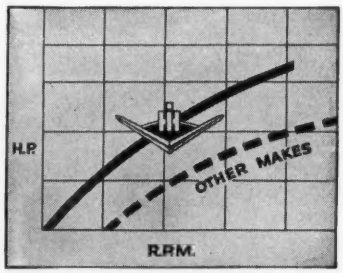
INTERNATIONAL TRUCKS

True Truck V-8 Power

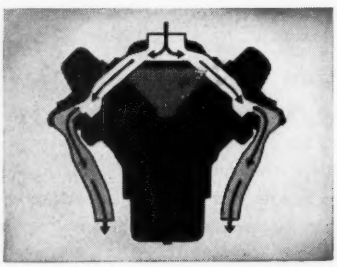
Just one reason why International Fire Truck Chassis cost least to own!



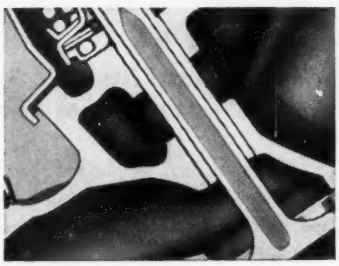
More usable power. Choice of 206, 226 and 257 hp. V-8 engines for increased power and pumping capacities.



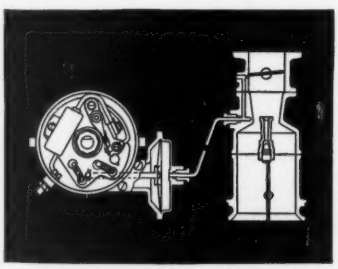
Less operating and upkeep expense with True Truck V-8 low friction design—short stroke and low engine RPM.



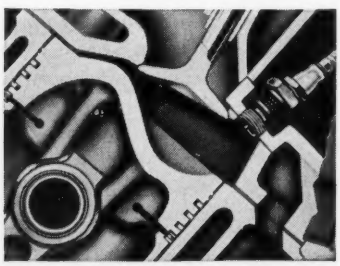
Smoother performance, greater efficiency with free-breathing design that ups volumetric effectiveness to 92%.



Less maintenance. Exclusive "wet" replaceable valve guides increase valve life, cut servicing to the minimum.



More dependability. Fully vacuum controlled and sealed distributor. Twelve-volt "hot spark" starting circuit.



More engine life. Fully machined combustion chambers resist power-robbing carbon for longer peak performance.

Here are trucks that start quicker, get going faster and keep moving longer—with up to 257 hp.! There's more response on the road, more bonus pumping capacities at the fire.

Short stroke, low rpm INTERNATIONAL True Truck V-8 engines cost least to own, and to operate. There's less friction, more power delivered to the wheels because engine, transmission and axle ratios are balanced to the job.

Specialized chassis are all-truck built for the special job of fire fighting. They're easier to handle, rugged for lasting service.

When you add it up, it's easy to see why INTERNATIONAL Trucks cost *least* to own! What's more, there are cost record figures to prove* it!

See your INTERNATIONAL Dealer for the details soon!

**Signed statements in our files, from fleet operators throughout the U.S., back up this statement.*

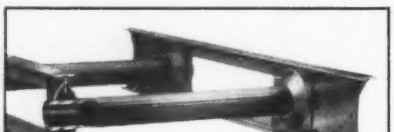
cost least to own!

INTERNATIONAL HARVESTER COMPANY, CHICAGO

Motor Trucks • Crawler Tractors
Construction Equipment • McCormick®
Farm Equipment and Farmall® Tractors

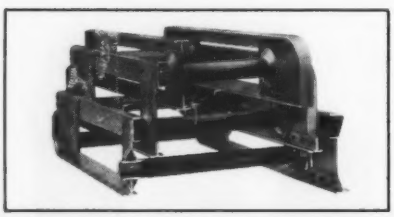
This 75 ft. Aerial is equipped with lightweight Alco-Lite Ground Ladders

The 75 ft. Aerial pictured above is a product of Ward LaFrance Truck Corporation, Elmira, N. Y.



Rungs won't twist, turn or break off!

Slip-resistant, tubular 1¼" aluminum rungs are permanently secured to T-channel side rails by means of exclusive Alco-Lite double gusset plate and expansion bushing construction.



Ladder sections operate automatically!

Channel slides the entire length of the ladder keep sections from becoming disengaged. Spring loaded locks automatically lock extended ladder sections. Ladder sections extend and lock and unlock simultaneously.

Aluminum Single, 2 Section, 3 Section and Roof Ladders are shown on the Aerial above.

The lightness in weight and trim, modern construction of Alco-Lite Aluminum Fire Ladders make them easier to handle and easier to lift. More important, these easier handling ladders save precious minutes and require less physical effort when used at fires.

Alco-Lite Aluminum Ladders are actually lighter, because of their construction, than ordinary wood or metal ladders. The ground ladders on the Ward LaFrance Aerial shown above feature open side rail, T-Channel design. All excess, weight-adding bulk is eliminated. This modern and strong, industry type design is possible because of exclusive Alco-Lite double gusset plate and expansion bushing construction. These ladders more than meet test requirements for strength and safety.

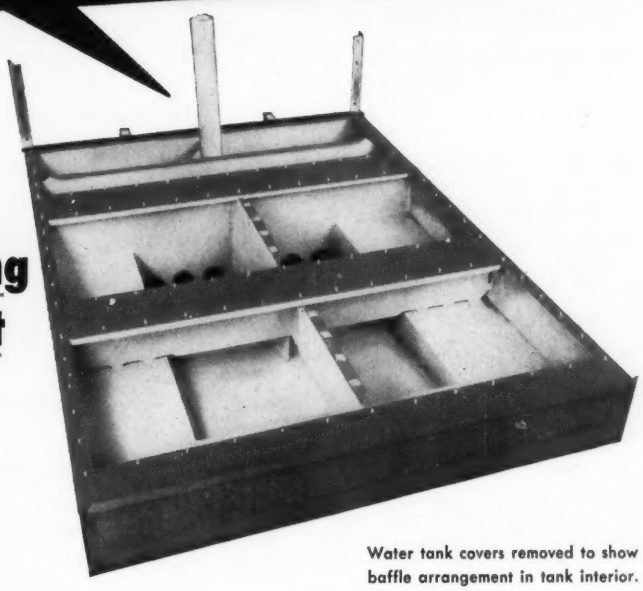
Maintenance is almost negligible with Alco-Lite Aluminum Ladders. They are not affected by water, moisture, fumes or gases. They do not warp, rot, splinter or burn.

When you want ladders that are easy to handle, safe and almost maintenance free, specify Alco-Lite Aluminum Ladders.

Aluminum Ladder Company ALCO-LITE

WORTHINGTON PENNSYLVANIA

There's Extra Value* in American-LaFrance Fire Engines ...



Water tank covers removed to show baffle arrangement in tank interior.

* Water tank construction with sloping bottom and deep outlet sump guarantees complete use of full water capacity . . .

All water tanks produced by American LaFrance are designed for effective fire service use and long service life. All water tanks, including baffles, are corrosion resisting heavy gauge steel (10 gauge) formed and electric welded before Zincilate processing for added corrosion protection.

The water tank illustrated is 500 gallon capacity. 750 and 1000 gallon tanks also have these Extra Value features.

1. Water tank is removable from body.
2. Removable covers to permit inspection and cleaning of every part of tank.
3. Deep sump outlet permitting withdrawal of rated tank volume before drawing air.
4. 2½ inch diameter outlet pipe for 200 G.P.M. flow to supply booster lines or two 1½ inch lines.
5. Sloping tank bottom to insure full volume for use when standing on a grade.
6. Front fill or rear fill optional.
7. A four inch diameter vent and overflow permits safe hydrant fill and no spilling on fast turns or stops.
8. Flange mounting for water tank level gauge float unit.

All of the above Extra Values, plus many more, are found only in American LaFrance built fire engines. Ask for Brochure, its free.

Sustaining Member, I.A.F.C.

AMERICAN LAFRANCE CORPORATION
ELMIRA, NEW YORK, U. S. A.

LAFRANCE FIRE ENGINE and FOAMITE LIMITED
TORONTO, 9, ONTARIO, CANADA

* SPARTAN 1000 G.P.M. Class A Pumper

DURA-FOG

- Stream can be selected by sight or touch
- Clicks into straight stream or desired fog pattern
- Floating gland type shut off
- Shock absorbent shut-off mechanism
- No kick back
- Rubber bumper
- Sturdy handle

PLATE 261

FOG CHIEF

- Compact
- Advantage of shut off, straight stream, and a variety of fog patterns
- Operates easily under high pressure
- No kick back
- Rubber bumper

PLATE 262

Both Nozzles, 1½" Size, Can Be Supplied with Either 60 or 100 GPM Discharge at 100 PSI, 30° Fog Pattern.

60 GPM for rural areas or where water supply is limited
100 GPM for cities or where water is plentiful

Our **66** th Year

POWHATAN BRASS and IRON WORKS
RANSON, WEST VIRGINIA
Phones 93 & 94 Charles Town, West Virginia
Established 1892

WARD LaFRANCE PUMPERS

for Des Moines

Model 112OT Semi-cab with new Waterous Electro-Matic CM-1000 G.P.M. pump. The fourth Ward LaFrance delivered to Chief Wayne E. Ulm for the Des Moines, Iowa, Fire Department. Ward LaFrance Representative: O. L. Brown, 1434 Harding Road, Des Moines.

WARD LA FRANCE PUMPERS—similar to those servicing Des Moines, Akron and other cities—are available for your community too. They offer specially designed cabs and chassis with unusual safety features — plus the dependable protection and excellent fire fighting service for which Ward LaFrance apparatus has been famed for over 39 years. Ask to have a Ward LaFrance representative tell you about these new models in detail.

for Akron

Model 112OT Seven-man Canopy Cab (rear entrance) with new Waterous Electro-Matic CM-1000 G.P.M. pump delivered to Chief Gerald Vernotzy for the Akron, Ohio, Fire Department. Ward La France Representative: Stanley R. Smith Co., 1200 West Ninth St., Cleveland.

Free Hose Discharge Tables

WARD LaFRANCE TRUCK CORPORATION

Dept. 10, Elmira, N.Y.

Please send handy, pocket-size Tables showing discharge from smooth nozzles and friction loss in fire hose.

NAME _____ TITLE _____

ADDRESS _____

CITY _____ STATE _____

for power to spare
on the way... at the fire...

Specify

Leece-Neville ALTERNATOR SYSTEMS

the best generator equipment you can buy!

Two-way radios, sirens, warning lights, rescue equipment—all combine to place a heavy load on your apparatus batteries. More of a load than the batteries can handle—*unless* you've installed Leece-Neville alternator systems!

Because they produce charging current *as soon as the engine starts*...enough to handle two-way radio transmitting loads... Leece-Neville alternators keep batteries charged . . . ready for fast, sure emergency starts in coldest weather!

And, high speeds can't damage L-N alternators ...they're designed for operation up to 12,000 rpm! What's more, L-N constant voltage level control assures peak radio performance . . . lengthens life of radio components.

Leece-Neville alternators, the original ac-dc generating system, have been used since 1946 as standard generating equipment on hundreds of fire apparatus fleets, both large city and rural volunteer departments. On any type of apparatus, large or small, L-N alternators will set new standards of performance while reducing operating and maintenance expense. For all the facts, see your local L-N distributor or write direct to The Leece-Neville Company, Cleveland 3, Ohio. *Distributors in principal cities . . . service stations everywhere.*

plenty of 110 volt power, too!

For abundant 110 volt power to operate floodlights, power tools, rescue equipment, etc., install a Leece-Neville 110 volt transformer and rectifier in conjunction with the alternator. Ask for special bulletin.

AA 6014

YOU CAN RELY ON Leece-Neville

Automotive Electrical Equipment Since 1909

TRUCK • BUS • DIESEL • INDUSTRIAL • PASSENGER • RAILROAD • MARINE • OFF-HIGHWAY

ALTERNATOR SYSTEMS

D C GENERATORS

REGULATORS

CRANKING MOTORS

SWITCHES

SMALL MOTORS

NOW the original John BEAN 29 FOG FIRE FIGHTING GUN

is available to all fire chiefs

Adaptable to all booster hose line systems

Today, no department can afford to be without the proven effectiveness of fog . . . now yours with the famous John Bean 29 fog fire fighting gun. For the first time offered as a separate, super-efficient fire fighting tool, this original fog gun gives you multiple fire killing benefits by smothering, isolating, and cooling flames with minimum amount of water. Simply turning the barrel gives you complete, easy control, with quick adjustment from solid driving stream to close-up fog patterns. Gun can be locked for any stream pattern . . . released instantly. Comfortable trigger grip provides most natural holding position . . . unique top spray functions as protective face shield. Hose twisting is prevented by means of a specially designed hose swivel.

John fmc® **BEAN**

Lansing 4, Michigan San Jose 1, Calif.

ORIGINAL FOG FIRE FIGHTING GUN

Food Machinery and Chemical Corporation

SEND COUPON for details TODAY

I am interested in the original John BEAN 29 Fog Fire Fighting Gun.

Please send complete information to me.

Name_____

Title_____

Address_____

City_____ State_____

Head-to-toe protection...

by Fyr-Fyter

LARGEST SINGLE SOURCE OF FIRE DEPT. EQUIPMENT!

Fyr-Fyter . . . complete line of:
FIRE HOSE • WOOSTER BRASS GOODS
NOZZLES AND COUPLINGS
PORTABLE FIRE EXTINGUISHERS
CLOTHING • PUMPS • LADDERS
WARNING AND SIGNALING DEVICES
FIRST AID KITS • MASKS—BREATHING APPARATUS
SAFA ALARMS

Fyr-Fyter firemen's clothes are designed for utmost protection and comfort . . . adapt to year-round weather . . . resist wear and tear . . . yet are handsome togs to give your crew a "parade sharp" look. Equipment shown:

* **SUPER-STRONG HELMET**
  Virtually indestructible plastic with triple-ridge crown to deflect falling objects . . . exceeds all government safety standards . . . has dielectric resistance of over 10,000 volts. Nylon and plastic headband adjusts from sizes 6½ to 7¾ . . . *no need to specify size.* In black, white, red (permanently impregnated colors). Comes equipped with adjustable leather chin-strap, detachable ear lugs. Distinctive Helmet Shields also available.
* **RUGGED COAT WITH SCOTCHLITE TRIM**
  Versatile, all-weather coat in white or black duck with red scotchlite trim which protects at night. Has removable warm wool lining. Specially designed sleeve and shoulder give maximum arm movement.
* **BUNKER PANTS**
  In Army duck or pliable rubber to match any coat style . . . liners available.
* **SERVICEABLE RUBBER BOOTS**
  Knee length or ¾ length. Have felt linings, felt-covered "shock-proof" insole, ladder shank and white cleated outsole. Furnished with pull-on loops.

Your fire department can profit many ways by buying from Fyr-Fyter . . . a single source for more than 1200 high-quality items.

YOU TALK TO ONE SALESMAN . . . PLACE ONE ORDER . . . PAY ONE BILL

Fyr-Fyter

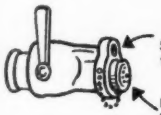
DIVISION [illegible] COMPANY
221 CRANE STREET, DAYTON 1, OHIO
Branches: *New York, Boston, Philadelphia, Chicago, Atlanta, Dallas, San Francisco, Los Angeles, Portland, Seattle*
REPRESENTATIVES IN PRINCIPAL CITIES

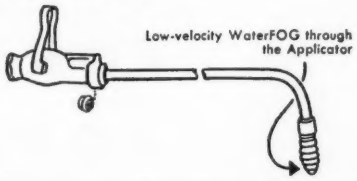
WRITE FOR FREE CATALOG DESCRIBING OVER 1200 ITEMS TODAY!

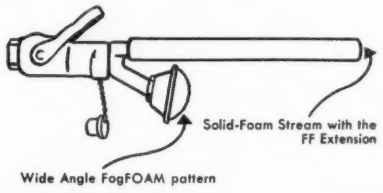
Rockwood SG-60 WaterFOG Nozzle is five nozzles in one

The lightweight Rockwood SG-60 WaterFOG Nozzle *eliminates "special" or single-purpose nozzles!* It actually does the work of five nozzles to put out fires faster, safer and more economically.

Here's what we mean . . .

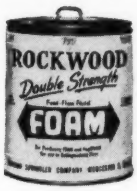




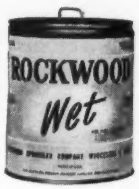


Here's what you need to put out ordinary combustibles and flammable liquids . . .

FOAM and "Wet" Eductor with the new FW Metering-Check Valve. Introduces Rockwood FOAM or "Wet" into hose lines, automatically proportioning correct amount of FOAM and "Wet" to water. Also usable wherever one liquid is fed into another on a fixed percentage basis.

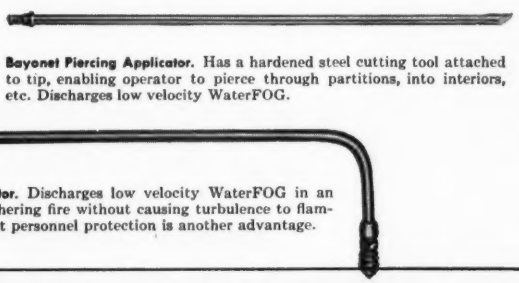


Rockwood Double Strength FOAM. Puts out fires in flammable liquids, and in ordinary combustibles, quicker, at lower cost. Three parts FOAM and 97 parts water create a heat-resistant blanket.



Rockwood WET. One part WET mixed with 99 parts water increases water's penetration and extinguishing action. Gives quickest results against deep seated fires. Saves time, water, manpower.

FF Extension Unit. Shown with Type SG-60 Nozzle. Discharges Rockwood FOAM in a solid stream or as Fog-FOAM. Wide angle makes it possible to cover large areas at one time.



Bayonet Piercing Applicator. Has a hardened steel cutting tool attached to tip, enabling operator to pierce through partitions, into interiors, etc. Discharges low velocity WaterFOG.

Long Extension Applicator. Discharges low velocity WaterFOG in an umbrella pattern, smothering fire without causing turbulence to flammable liquids. Excellent personnel protection is another advantage.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

Distributors in all principal industrial areas

and here's the way to get more information

ROCKWOOD SPRINKLER COMPANY

Portable Fire Protection Division
2028 Harlow Street
Worcester 5, Massachusetts

Please send me your illustrated booklet on Rockwood fire-fighting products.

Name .....
Title .....
Company .....
Street .....
City .....
Zone ..... *State* .....

FEATURING
The dependable, powerful
SIREN-MASTER
TRADE-MARK

For Emergency Vehicles

WITH EXCLUSIVE

FORWARD SOUND PROJECTION

DESIGNED WITH THESE EXCLUSIVE FEATURES:

- ★ WEATHERPROOF
- ★ LIGHTWEIGHT
- ★ OPERATES ON LESS CURRENT
- ★ CONTINUOUS DUTY MOTOR

HERE'S WHY

North American Signal Company's "SIREN-MASTER" leads the field in design and performance features! The "SIRENMASTER" Motor is specifically designed for rugged, dependable siren use. It is not an adaptation of a motor intended for another automotive application. The "SIRENMASTER" design is a completely new concept of emergency vehicle siren construction. The rammed air flows virtually in a straight line from the center air intake through the sound producing chamber for greater efficiency. There are no sharp angles to decrease the air flow. Thus, the faster you go, the louder your signal is emitted.

MANUFACTURED BY: **NORTH AMERICAN SIGNAL COMPANY**
DEPT. A • BOX 216 WILMETTE, ILLINOIS

ATTENTION: MANUFACTURERS' REPRESENTATIVES
Choice Areas are available. Write today for further information.

A GREAT TEAM
OF FIRE-FIGHTING PUMPS
—pulling together for YOU!

THE BARTON - AMERICAN MIDSHIP - MOUNTED
DMA

THE PORTABLE AUXILIARY-BOOSTER
3XD

WRITE FOR BULLETINS:
No. 8120 (3XD Booster)
No. 8733 (DMA Pump)
No. 8330 (UA Pump)

Like all great teams, these pumps really *pull together!* For booster service, the American-Fire 3XD Auxiliary Pump is *tops!* From pond, stream or cistern, it'll supply two 1½" hose lines or one 2½" line, depending on nozzles used. And it's better-than-ever now with increased power and reduced weight.

Working with it, you'll want the superior performance and great dependability of the Barton-American DMA Multistage Midship Pump — or the Gear-Driven UA Front-Mounted Model. Either one will give your department peak fire-fighting effectiveness — plus unique operational advantages. Make *yours* an *all-American team!*

★ AMERICAN ★
FIRE PUMP COMPANY

P. O. BOX 219-A
BATTLE CREEK
MICHIGAN

Now! Telegraph and Voice in One Alarm Box

Gives Fastest Action for Fires and Emergencies

Now, you can have real two-in-one protection for your community . . . fast, automatic signalling for fire alarms and multi-purpose voice for general emergencies. The Gamewell "Citizen's Emergency Center," just developed as a combination system, provides the ideal type of communication for reporting the two basically different types of emergencies found in every community. The inherent speed, safety and positive identification features of telegraph fire reporting are retained — plus an independent voice circuit for reporting non-fire emergencies over a special private-line circuit to police or central switchboard. A Police Privacy Alarm System is also available.

Write for complete details! Give your community maximum protection at minimum cost. Here is the opportunity for a completely integrated and independent Fire and Emergency Alarm System always ready for use on a 24-hour basis. It can be added to existing system or completely engineered as a new installation. Ask for FREE SURVEY and further details from:

GA 7-17

THE GAMEWELL COMPANY
Newton Upper Falls 64, Mass.
In Canada: Northern Electric Co., Ltd., Belleville, Ont.

GAMEWELL®

First When Seconds Count

Please send information as checked below:
- ☐ Catalog data on Citizen's Emergency Center
- ☐ Details on FREE Survey
- ☐ Have salesman call

Name .....
Title .....
Street .....
City ..... *Zone* .... *State* .....

FIRE
ENGINEERING
THE JOURNAL OF THE FIRE PROTECTION PROFESSION SINCE 1877

VOL. 111, No. 1 JANUARY, 1958

Ground All Homemade Rockets?

As readers of FIRE ENGINEERING know, we have repeatedly stressed the fact that fire fighters today are faced with new destructive hazards, undreamed of by their forefathers.

World War II gave great impetus to the mass production of strange and deadly weapons, of which the atom bomb was the most frightful. In the years that followed, scientists, chemists, and physicists have concentrated on creating even more deadly devices. Now, spurred by Soviet scientific triumphs, symbolized by Sputnik and the ICBM, still more lethal instruments are taking form.

Already the fire service has had to add nuclear fission and radioactive fallout to its dictionary of dangerous hazards. Ere long the Geiger counter will find a place on every piece of modern apparatus, along with the axe and clawtool.

Now comes another nightmare to plague the fire service, a by-product of the Atomic, Chemical and Space Era—Rocketry.

Even in scientific hands, these rocket and rocket missiles are unpredictable and dangerous instruments. Given over to novices, would-be scientists, particularly juveniles, their possibilities for destruction know no limits, as witnessed by press and radio reports such as these:

JACKSONVILLE, FLA.—December 21—A 14-year-old boy was killed when his homemade rocket exploded in his garage workshop.

MOUNT VERNON, N. Y.—December 19—A 14-year-old boy suffered serious injuries when his homemade brew of potassium chloride and sulfur, deadly in combination, exploded in his face.

BROOKLYN, N. Y.—December 16—A 14-year-old Brooklyn high school student "with a mania for rockets" was maimed for life when "rocket fuel" exploded in his bedroom while he was experimenting.

These and other tragic incidents growing out of the race among juveniles—and grown-ups—to become over-night rocket scientists, have aroused widespread concern among propellant experts, law and order authorities and others which forethoughtful fire fighters may well heed.

One of these experts, Francis Warren of the Southwest Research Institute, San Antonio, Tex., voices his alarm at the spreading interest of youngsters in homemade rockets. They disregard warnings of the dangers in experimenting with these hazardous devices, he says. The trouble is to keep the materials for making rockets away from such enthusiasts because "they can be bought anywhere." As one member of a teen-age rocket club boasted: *You can buy the materials to make rockets at any grocery store. It's just a mixture of weed killer and sugar.*

Mr. Warren warns not to play with such things as sodium potassium or sodium chlorate under any circumstances. Chlorates are unstable and when mixed with sulfur or zinc explode easily rather than burn. He counsels not to use mixtures containing finely divided metals such as aluminum and zinc because they react with oxygen even at normal temperatures, and adds, "Powdered magnesium must not even be considered."

In Connecticut, State Police Commissioner John C. Kelly warns that his state is not quite ready to let junior spacemen probe outer space with homemade rockets. Building and launching such devices "*would appear to be in conflict with the best interests of the public . . . for the time being, amateur rocketry will be forbidden*" is the way he puts it.

Meanwhile the science-minded juvenile "clubs" and "societies" flourish. In Austin, Minn., a "rocket society" launched a mousenik in December, powered by zinc dust and sulfur. In Belleville, Tex., students of the U. of Texas fired a rocket over 5000 feet into the air on December 14 which spread consternation among some 200 spectators.

From all the evidence at hand, it would appear time for the fire service to give serious heed to this latest comer in the field of modern fire and explosive hazards. Certainly the situation suggests intensified inspections and investigations, particularly among the swelling number of rocket and "space" societies and clubs.

Roi B. Woolley

Class in training-by-doing gets roof workout in shadow of San Francisco's City Hall. Use of tools for stripping back roof paper, cutting openings, removing capping from walls, etc., was demonstrated in this skytop open air classroom

TRAINING-BY-DOING . . .

San Francisco Fire Fighters Practice Scientific House Wrecking

REVIEWING THE PROGRESS made in training of the nation's fire fighters in the past three-quarters of a century, nothing stands out quite so prominently as what may be called training-by-doing; in other words, actually operating on fires of different character and magnitude.

Over the years, FIRE ENGINEERING has devoted many pages to this noteworthy advance in firemanship education, which received its chief impetus during World War II, with its threat of enemy incendiary attack, and the Navy's development of damage control fire fighting technique as taught in its many base installations.

Although fire departments down the years have exhibited their prowess and skill by publicly extinguishing set fires, for the most part these were limited in scope and size, and prior to World War II, at least, the impelling motifs were usually to exhibit and demonstrate fire equipment and/or manpower rather than educate fire forces themselves in the art of scientific firemanship. For many years these demonstration fires were on the agenda of meetings and conferences of fire chiefs, particularly the International Association of Fire Chiefs, which staged some sort of field exercises at nearly all its conferences. In the past, most of these manifestations were arranged by manufacturers of extinguishing agents and equipment, to demonstrate the effectiveness of their products. The Armed Forces cooperated many times to provide drama with elements of education.

Armed forces initiated program

It remained for the Navy and Air Forces to establish a comprehensive program of training-by-doing, which was adapted by municipal fire fighters who, in turn, set up similar facilities within their departments and which over a period of time, were elaborated upon to encompass most of the major factors of fire extinguishment. The government has continued to cooperate with the nation's fire fighters as evidenced by the story in FIRE ENGINEERING (June 1957). Making use also of the technique of training-by-doing, a few of the leading fire schools and colleges of the nation set up facilities to include such practical, first-hand education and instruction. And this trend has continued to manifest itself as the whole question of firemanship training assumed greater importance.

FIRE ENGINEERING has logged these developments, some of the more outstanding studies covering the New Haven Fire Training Ground, the Baltimore County Fire Department Training School, the progress made in the Pennsylvania State Fire College. Reference also should be made to the very latest of municipal fire department schools, that of the Baltimore Fire Department. Mention also should be made of the importance placed upon training-by-doing at the renowned Fire Department Instructors Conference which, practically from its inception has included in its four-day curriculum, field exercises in fire extinguishing and various firemanship operations. These accounts also have been chronicled in this Journal.

Notwithstanding all this progress, the simple fact remains that every fire department has been handicapped by its inability to educate and train its operating personnel in certain practical phases and details of their jobs, particularly those of forcible entry, ventilation and overhauling, and in various safety practices relating to such tasks.

Showing a ladderman how to use an ax on a railroad tie, or other bit of lumber, is better than trying to explain ways and means of cutting on blackboard; but giving him a genuine roof to open is far more satisfactory and convincing than both. Manuals and visual teaching aids unquestionably are helpful in explaining the use of the varied forcible entry and other tools of the fire fighter, but placing the actual tools in his hands, and having him apply them under actual operating conditions, is the most practical and convincing way to accomplish the desired results.

All of which will be agreed to by most fire instructors. The problem however, has been—and is—how and where to find the roofs, doors, and walls, etc., upon which the trainee can be taught these various skills through actual practice.

It is not always possible to locate suitable buildings that will serve the purpose. Even when located, the fire department, for one reason or another may be refused permission to do this "training-by-wrecking." And as for putting out actual fires in such structures, there is usually so much red tape and so many restrictions to be overcome before a condemned building (or storages of combustibles that give off heavy smoke) can be burned that fire officials have long expected lack of cooperation.

Notwithstanding all this, some progress is being made in this field of training-by-doing, principally among the volunteers where they are able to secure old dilapidated structures in isolated or otherwise safe areas where they can rip, tear, cut, and burn to their heart's content. And noteworthy progress is being made in the few isolated cities where, even if because of exposures, health regulations or other restrictions, the condemned buildings cannot be burned, nevertheless local fire fighters are permitted "dry runs" and allowed to assist the structural wrecking crews by learning while practicing the "tricks of their trade."

San Francisco sets pace

One noteworthy example forms the basis of this report. It comes from the San Francisco Fire Department, through courtesy of Fire Chief William Murray and Assistant Chief Clarence G. Rosenstock, director of training of the department.

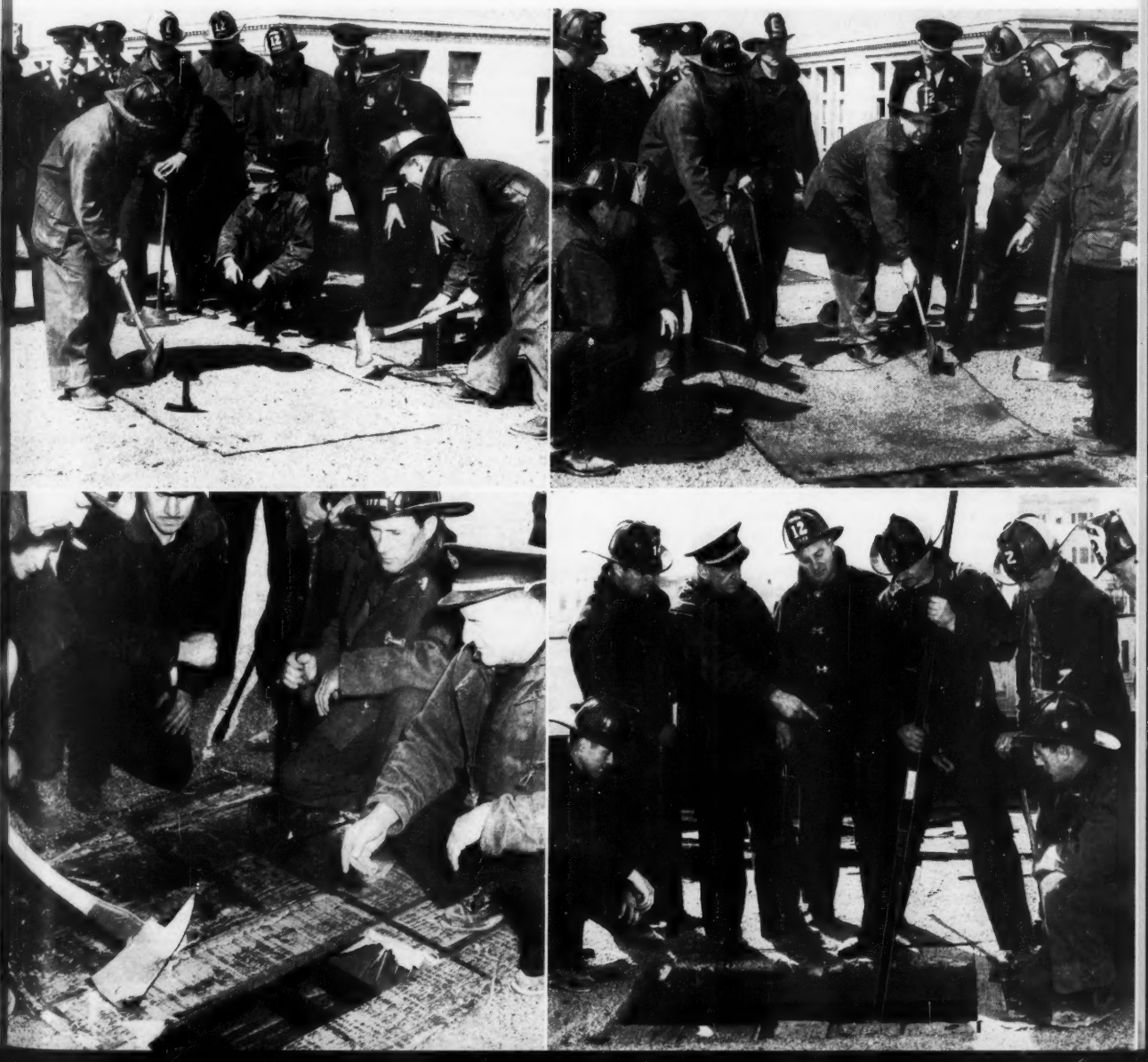
Although this enterprising department has excellent training facilities, its executive heads have been conscious of the further need of instruction-by-doing, particularly in the fields of forcible entry, ventilation, overhauling, the study of building construction, and safety practices.

The City of San Francisco, like many other municipalities, is improving its highway facilities. In this connection, the California Division of Highways is demolishng buildngs to provide right-of-way for freeway construction.

Through the cooperation of Mr. Dennis of the Highway Division, Chief Murray's bid for a condemned structure was accepted, and the training division received a three-story building which proved ideal for the desired instruction which as Chief Rosenstock says, "could not be provided at the department's fire college."

Thirty men and officers, together with

An entire crew observes, then actually practices opening roofs. This sequency shows how San Francisco fire fighters (top two photos) remove roofing paper before cutting sheathing. Note use of pick-head axes; types of cutting—"V" cut vs square cut (lower left); and venting concealed space below roof by pushing down ceiling with plaster hook (lower right)



How to spring a door, using claw tool, as taught in the San Francisco Fire Department's training-by-doing program

a complement of members and officers from the bureau of fire prevention, are detailed to the training building each day, during which period they participate in the actual use of tools required for the various evolutions listed herein. The Fire Prevention Bureau personnel are afforded the opportunity to thoroughly observe and study building construction coincident with the "destruction" activities of the fire fighters.

According to Chief Rosenstock, as a result of this type of training, the department personnel has the opportunity for gaining practical, on-the-job experience which it can receive otherwise only at actual fires and, to less degree through lectures and visual aid instruction at the department fire college. Chief Murray, together with other top fire officers, praise the procedure and program, and state that it has developed considerable interest throughout the Bay Area. It is "very enthusiastically received by our own personnel from our chief officers down to our newest probationary," further states the Chief, adding that "men have been asked to be assigned to the detail."

Officials point out that this type of training-by-doing is of course contingent upon the release of buildings to the fire department—in this case, the State Division of Highways. In other cities this cooperation must come from other authorities, local and/or county or state, or a combination of these.

The San Francisco program envisages the extension of such field-training to buildings of various types of construction other than the one described herein. The results of this initial experiment, however have been excellent, particularly with the newer men. Chief Rosenstock reports that it "provides the men with a type of actual physical training which they otherwise will not receive."

The San Francisco Fire Department, in addition to this newest development, is continuing its regularly scheduled training program, as follows:

1. A continuing probationary course of two months duration in which the probationer will be thoroughly indoctrinated in the fire department before he is assigned to a company.

2. Officer training on the subject of instructor training, supervision and administration, of 30 hours duration each. In this phase the department has enlisted the aid of the Bureau of Industrial Education, Fire Training, of the State Department of Education, which is also assisting the department in the preparation of a course in fire service hydraulics.

3. First aid training at the fire college and drill tower.

4. Company unit training at the fire college and drill tower.

5. Tentative courses in salvage practices, airport practices and special chief officer lectures.

The San Francisco Fire Department has also extended an invitation to the Atomic Energy Commission to use the department's facilities in its course on "Hazards of Atomic Energy." □□

Training-by-Doing Curriculum in Overhauling, Ventilation, and Forcible Entry

Location: Sierra Hotel
McAllister & Franklin Streets
San Francisco, California

I. *Window frames and sash*
- A. How to remove windows and frames within room assigned
  1. Remove window stops
  2. Remove lower sash
  3. Remove parting bead
  4. Remove upper sash
  5. Remove all window casings, interior and exterior
  7. Remove window frame by striking at sill level, outwards

II. *Doors*
- A. How to remove doors within room assigned
  1. Remove all door casings
  2. Remove threshold
  3. Remove jambs or door frame

III. *Base board and picture molding*
- A. How to strip and remove baseboard and picture molding, remove baseboard and shelving, and hook strip located in closets

IV. *Walls, wood and metal lath and plaster*
- A. How to open up wood lath and plaster
  1. Cut square in plaster about 2 feet by 3 feet
  2. Skim off plaster with blade of ax exposing wood lath
  3. For further entry to expose fire stops or bridging blocks and interior of wall, remove lath, by chopping or enlarging opening to 4 feet, as wood laths come in 4-foot lengths
- B. How to open up metal lath and plaster
  1. Remove metal lath in side walls by chopping with ax to desired size of opening.
  2. Explain about removing metal lath from ceilings, to start at end of ceiling to peel sheet of lath in one section

V. *Ceilings*
- A. How to expose ceilings
  1. Expose ceiling joist by pulling down lath and plaster with ceiling hook
  2. Use ceiling hook by pulling plaster, etc., down in front of oneself, and not on top of oneself
  3. Working hook forward not backward — as you walk if possible

VI. *Floor*
- A. How to chop and remove section of flooring
  1. Chop flooring about 12 to 18 inches away from partition
  2. Make at least three or four cuts
  3. Remove flooring up to partition, to each end of room

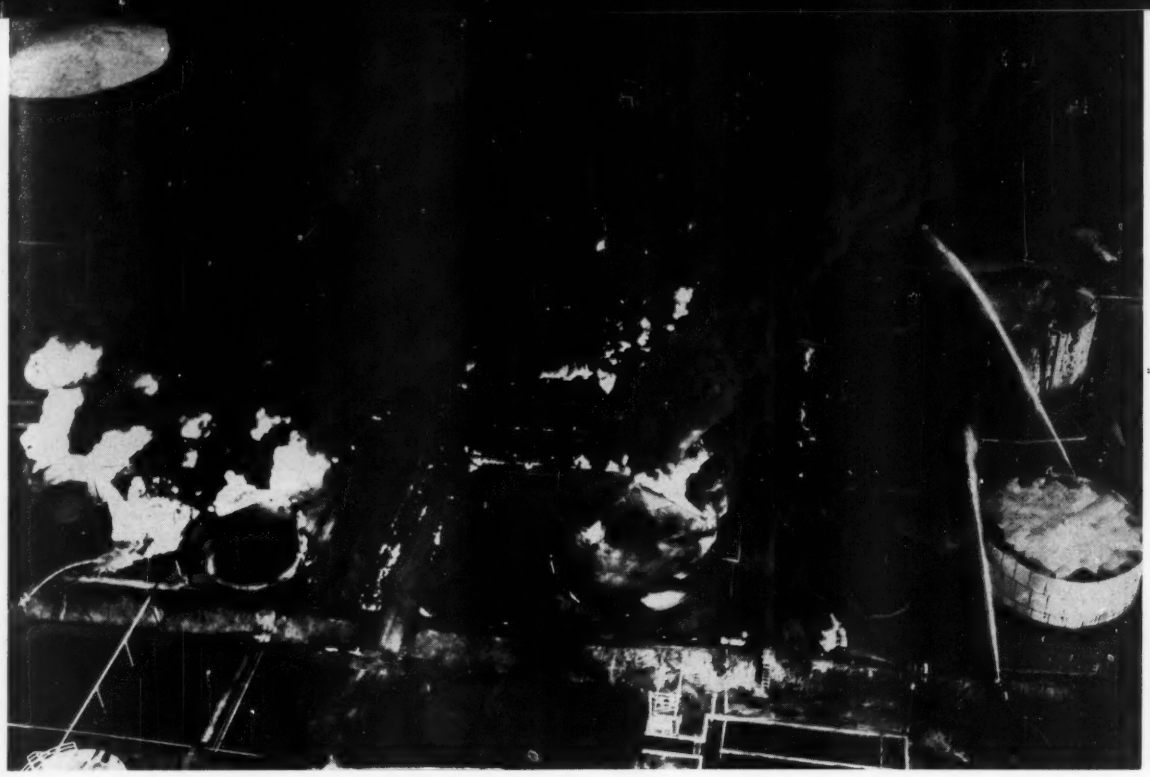
VII. *How to remove magnesite or composition flooring from bathroom and toilet rooms*
- A. Tools—Chicago door opener, sledge hammer, pick ax

VIII. *Roof*
- A. How to cut opening in roof
  1. Make opening 4 feet long by about 3 feet wide
  2. Roof rafters are on 32-inch centers
  3. Make opening in exposed ceiling below by use of ceiling hook

IX. *Lightwell*
- A. How to remove metal siding on lightwell walls
  1. Tools — Axes, ceiling hook, wrecking pole, Chicago door opener, large and small claw bars

X. *How to use the Chicago door opener*
- A. Show use of door opener on doors opening inward and outward, using each end of the door opener

XI. *Fire walls*
- A. How to open up metal lined fire walls
  1. With pick ax remove metal flashing
  2. Cut along hot coated roofing material to release redwood cap
  3. Using claw bar, peel back metal lining from fire wall exposing sheathing
  4. Remove sheathing with blade of ax or pick end



Partial view of Ingram tank farm blaze showing spread of fire via drainage ditches. Note flaming ditch upper left; use of foam, lower left, and heavy streams, right, to cool exposed tanks—*New Orleans F. D. photo*

Mass Mobilization at Meraux Controls Costly Refinery Conflagration

Tank farm blazes test mettle of mutual aid forces in vast cooperative effort . . . Reinforcements of material and men flown in . . . Foam at a premium

A Special FIRE ENGINEERING Report

FIRE WHICH STARTED about 2:30 p.m. on Wednesday, December 4, at the $4 million plant of the Ingram Oil and Refining Company, Meraux, La., when a newly repaired tank containing gasoline collapsed, burned out of control for 12 hours. The blaze, termed the worst oil fire in the history of the New Orleans area, caused over $1 million property loss and brought death to a plant worker, and injuries to several others, including firemen.

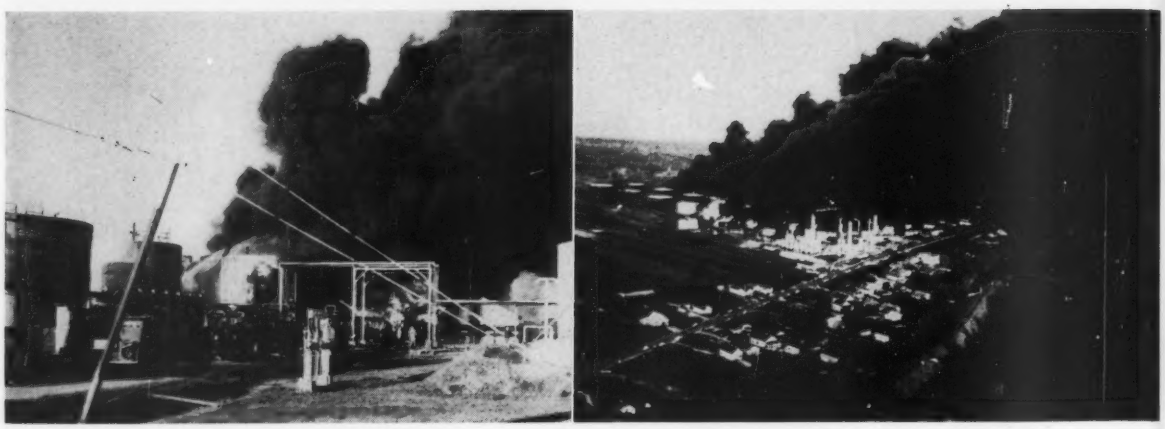
Meraux is situated on the Mississippi River, approximately 18 miles from New Orleans in St. Bernard Parish. The vast plant includes a refinery, blending and cracking unit and tank farm in which are located 48 tanks each containing from 1500 to over 20,000 barrels of highly flammable petroleum products (a barrel is the equivalent of 47 gallons).

The fires—actually there were two, the second following two days after the first—destroyed or damaged eight tanks, three of which alone contained 2,898 000 gallons of refined gasoline, most of it of premium quality. At the height of the holocaust, eight large tanks were burning with blazing fuel covering water in drainage ditches, threatening many others of the 40 remaining reservoirs as well as the plant's catalytic cracking unit.

In all, the fire threatened 500,000 barrels of petroleum products—250,000 barrels of high octane, 100,000 in crude oil and the rest, 150,000 gallons, in petroleum distillate.

A strong north wind fanned the flames at the outset, shooting them 100 to 200 feet into the air, creating a pall of black smoke that covered the entire area south of the installation.

The fire reportedly was caused by the collapse of a 14,000-barrel blending tank containing about 13,000 gallons of gasoline. It is believed the single dead victim, a plant pumper and gauger, might have been working on the tank at the time the fire started. Fire from this reservoir quickly communicated to others nearby. The blaze also burned several railroad tank



Left: Fire forces in Ingram Oil Company's tank area. Note type of drainage ditches which gave firemen trouble. Streams (background) attempt to cool exposed tanks. **Right:** Air view of blaze at its height. Firemen fight to keep flames from refinery (center). Exposed houses at right were evacuated—*New Orleans F. D. photos*

cars and heavily damaged two pumping stations.

Vast fire force engaged

A force of some 700 men were mobilized in the effort to confine and control the dangerous fire. They included firemen from St. Bernard and adjacent parishes, together with members of the Army, Navy, Coast Guard and National Guard, Civil Defense, and specialists from neighboring oil companies; members of New Orleans police crash crews, and volunteers. Extra police from a wide area were also on hand to help keep the highways open to fire, ambulance and other emergency vehicles.

Fire Chief Howard Dey of New Orleans, dispatched six engine companies, one salvage unit with foam equipment, 100 cans of foam, two district chiefs, the superintendent of maintenance and approximately 35 men to the scene. The fireboat *Deluge* also came from New Orleans and supplied two hose lines leading from the river over the levee to the New Orleans pumpers, delivering 250 psi in relay.

Two fire units came from Jefferson Parish and still other aid came from Orleans Parish and as far north as Baton Rouge, to assist the hard-pressed St. Bernard Parish forces.

The National Guard brought in bulldozers which were employed to throw up dikes to divert or dam the spreading blaze. Helicopters also were pressed into service to transport the quantities of foam called for by the fire fighters who used it as their chief weapon in setting up the initial defense, and in the later attack on the fire.

Firemen directed evacuation of residents from their homes in the exposed area. At one time it was feared an entire subdivision of houses would have to be vacated, but fire fighters were able to contain the spread of flames on this front.

Main reliance of the fire forces was chemical foam which reportedly was applied at the rate of approximately 18,000 gpm at the peak of the struggle. For many hours the intense heat prevented firemen from approaching nearer than 200 feet to the blaze. During this period heavy streams and foam were used on exposures.

For a period of about six hours the fire was accelerated by supplies of high octane gasoline which flowed from an opened valve in one of the big tanks and which could not be valved off due to inability to reach the shut-off. Five plant employees, however, after donning special protective clothing were able to penetrate the oven-like heat, reach and close the valve. Three of the men were so affected by the heat and smoke that they were rushed to Charity Hospital for treatment. With the stoppage of this flow, fire fighters were able to move in on the fire on south side.

As the foam supply fell dangerously low, urgent appeals went out to all available sources, including the Navy, Coast Guard, airports and oil plants in the area. Helicopters were pressed into service to speed delivery of the foam. The Navy dispatched 600 cans and large supplies came from other sources.

Firemen spread foam on spills wherever they could be approached. In this operation one fire fighter received eye injuries when accidentally sprayed by foam solution. A policeman suffered a broken knee when struck by a hose wrench.

Ambulances from three parishes stood by during the action. New Orleans police crash crews also lent a helping hand, while Salvation Army workers supplied food and coffee.

At 6:30 p.m., four hours after the start of the fire, a state of emergency was still in effect although it was believed the spread of the blaze had been temporarily halted, or confined to the tank farm. It was not until some hours later that definite control was established.

Continued on page 38

Two fire fighters flee for their lives as storage tank in Ingram Oil Co.'s tank farm erupts. One worker was killed, several others were injured in $1 million blaze

How to Handle the Pesky

MAIL BOX FIRE

New York Fire Department and Post Office Join to Test Out Different Extinguishing Agents

MAIL BOX FIRES may be inconsequential in magnitude when it comes to direct property damage, but they may have far-reaching repercussions. And they pose an extinguishing problem for any fire force—big or little.

That there has been no approved "standard" method of treating such fires was indicated recently when the United States Postal authorities requested the New York Fire Department to give this problem thought and offer a solution.

The result was that tests were conducted last year at the New York Fire College. The experiments were directed by Deputy Chief Thomas Hartnett (since retired) and Captain Fred Daniels, utilizing probationary firemen of the department.

COMPARATIVE TESTS

Parcel Post Box (Carbon Dioxide)

	Test 1	Test 2	Test 3
Burn time	10 minutes	10 minutes	15 minutes
Amount of agent	3 long blasts	3 short blasts	3 short blasts
Waiting period	30 seconds	2 minutes	5 minutes
Results	Flared up	Material flamed 10 seconds after opening	Fire out

Parcel Post Box (Carbon Tetrachloride)

	Test 4	Test 5	Test 6
Burn time	10 minutes	10 minutes	10 minutes
Amount of agent	3 pump strokes	2 pump strokes	1 pump stroke
Waiting period	30 seconds	30 seconds	30 seconds
Results	Fire out	Fire out	Fire out

Medium Letter Box (Carbon Dioxide)

	Test 1	Test 2
Burn time	10 minutes	10 minutes
Amount of agent	3 short blasts	3 short blasts
Waiting period	30 seconds	2 minutes
Results	Flared up	Fire out

Medium Letter Box (Carbon Tetrachloride)

	Test 1
Burn time	10 minutes
Amount of agent	One pump stroke
Waiting period	30 seconds
Results	Fire out

Small Letter Box (Carbon Dioxide)

	Test 1	Test 2
Burn time	10 minutes	10 minutes
Amount of agent	3 short blasts	3 short blasts
Waiting period	30 seconds	2 minutes
Results	Flared up	Fire out

Small Letter Box (Carbon Tetrachloride)

	Test 1
Burn time	10 minutes
Amount of agent	One pump stroke
Waiting period	30 seconds
Results	Fire out

Problem—damage to contents

The prime objective of the experiments was to determine whether or not fires in such containers could be extinguished with minimum damage to contents, utilizing some extinguishing agent other than water. It is common knowledge that water, even in small quantities, will tend to obliterate addresses, un-gum sealed envelopes and destroy some enclosures.

The Post Office Department provided the New York Fire Department with three sizes of standard mail boxes for the tests: A parcel post box of 9.72 cubic feet capacity; a medium size letter box of 2.70 cubic feet; and a small size letter box of 1.44 cubic feet capacity.

The boxes were loaded with old mail, including newspapers and magazines to represent the contents of the average mail box. The contents were then ignited and allowed to burn until the paint began to peel on the exterior of the box. The extinguishing agent was then introduced through the deposit slot or door, at the top of the box. After a waiting period, the box was opened at the bottom removal door and the contents examined for the effects of the extinguishing agents. Tests were made with both carbon dioxide and carbon tetrachloride extinguishing agents.

Conclusions

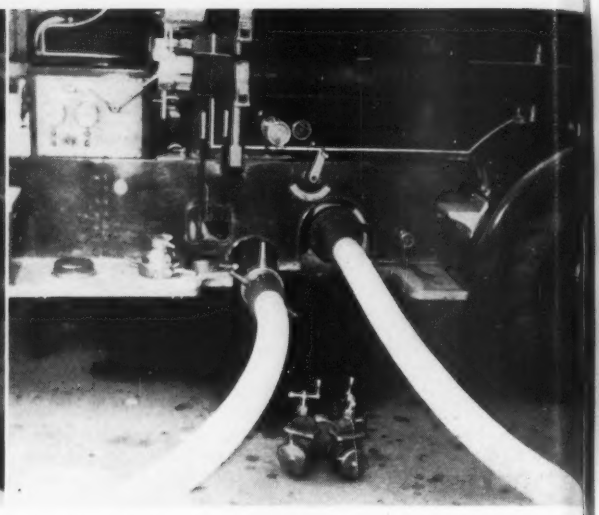
After each test the contents were examined and damage was found to be confined to the actual burning. There was no obliteration of addresses or saturation of the individual pieces.

The use of a 15-pound carbon dioxide extinguisher will be effective, but a waiting period of five minutes is necessary before opening the box.

The use of a 1½-quart carbon tetrachloride extinguisher will be effective, but a waiting period of 30 seconds is recommended before opening the box.

The results of the tests prove conclusively that such fires can be extinguished within a few minutes by carbon dioxide and carbon tetrachloride and the unburned contents preserved for future delivery by the postal authorities. □□

Acknowledgement: The editors acknowledge the assistance of officers and members of the New York Fire Department for the data upon which this report is based.



Left: Full use of available water at each hydrant is made by connecting a 4-inch line and two 2½-inch lines. **Center:** Adapters permit connection of large bore hose to pumper intake and discharge. Couplings on large hose are National Standard steamer thread for direct connection

Use of 4-Inch Hose Capitalizes Hydran

It is common knowledge that the greater degree to which fire hydrants closest to the scene of a fire can be employed, so as to develop their fullest delivery, the more effective will be the fire control operation. Increasing the size and capacities of the pumping engines and locating them at the nearest supply, has been and is being done by a number of departments. But this is not always feasible in every locality. There are a number of imponderables to consider.

Another approach to the problem of getting the most from the nearest water supply (hydrant) takes the form of a hook-up which depends not so much upon the size of the pumping unit as it does upon the size of the conductors—or hose lines and their layout.

For some time, authorities have advocated use of larger hose (i.e., 3-inch and 3½-inch), as at least a partial answer to the problem. Many metropolitan departments now carry the larger sizes and use them not only in "working" fires but for hooking up to standpipes, etc.

But thus far, notwithstanding the acknowledged fact that the larger size hose insures greater flows at less friction loss, not many fire departments have seriously explored the possibilities of the larger hose sizes in their own operations. This is particularly true in the 4-inch category.

The objections raised by some who have studied the subject include the factors of increased weight and consequent loss of mobility which accompany the standard large size hose. Because many fire chiefs have felt these features were not desirable the large diameter hose did not achieve a great degree of popularity.

More recently the introduction of synthetic hose fibers and the realization that large diameter hose need not be of the same heavy-duty construction as 2½-inch hose has led some officials to further experiments with the larger sizes. Wenatchee, Wash., a small paid department, has developed a method of employment which the fire chief believes is more efficient than other practices used in the past. Chief T. A. Weaver has given this information to FIRE ENGINEERING in order that further study of the subject may be stimulated in the field.

DURING A FIRE FLOW TEST by engineers of the Washington Survey and Rating Bureau it was determined that one of the Wenatchee, Wash., hydrants on a 10-inch main was capable of delivering 2,400 gpm, and that many others gave comparable performance.

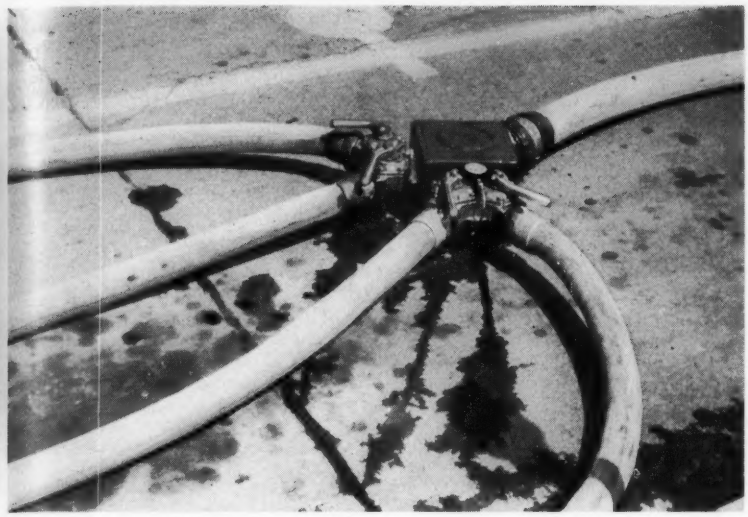
Chief T. A. Weaver and the members of the fire department searched for a method which would allow them to utilize this water flow to its fullest advantage. From experiment and research it was found that by using a single 4-inch hose line and two 2½-inch hose lines from hydrants of the type installed in Wenatchee, it was possible to capitalize on the available water to the fullest extent.

The large diameter hose employed is single jacket dacron and cotton, tested to 300 psi. It is supplied by several manufacturers and had been originally produced for the U. S. Navy during World War II. Its large bore offered fire fighters a means of overcoming the friction loss associated with high volume discharge.

In order to effectively employ this large hose, Wenatchee firemen found it necessary to construct a four-way discharge manifold which enabled four 2½-inch lines to be supplied by a single line of the larger hose. This special manifold is made of aluminum and weighs 67 pounds; individual gates are provided for the 2½-inch openings. These permit the shutting down of a single line without disturbing the remaining lines.

The department has equipped one special hose wagon to carry the large hose. It is loaded with 1,100 feet of 4-inch and 300 feet of 2½-inch hose for lead lines and in addition, it carries two of the special manifolds.

In present operation the larger hose is stretched from the fire to the hydrant that is to be the source of supply, and the driver of the apparatus hooks up



to 4-inch hydrant outlet. **Right:** Manifold constructed by Wenatchee Department. Gage is connected to port provided for test purposes

ran Flows to the Limit

the hydrant supply line. A 4-inch manifold is connected to the large hose in front of the fire and from it up to four 2½-inch lead lines may be taken off. Chief Weaver reports that in actual service these lines have never been required to exceed 100 feet in length. All Wenatchee pumpers are equipped with special adapters which permit discharge into the 4-inch hose. This enables the department to pump into the hose, to relay or to pump from it.

Test results with pumping equipment have shown further advantages. In one case a 1,000-gpm pumper was connected to 200 feet of the larger hose which was used literally as soft suction; the hydrant employed was located on 900-foot dead-end of a 6-inch main. Engineers of the rating bureau found that the pumper was able to deliver 1,218 gpm under these conditions with a residual hydrant pressure of 45 psi.

In addition, Chief Weaver noticed that when used as a soft suction, the hose has the unique quality of collapsing in a triangular shape rather than flat as would be expected with conventional hose when a vacuum is approached. This unusual occurrence prevents complete loss of water supply to the pumper under such conditions.

Case History

During a recent fire the Wenatchee Department stretched thirteen 2½-inch lines to combat a delayed alarm blaze involving the entire lower floor of a two-story, 100 x 100, dry goods store. All lines were supplied from three hydrants by use of 900 feet of 4-inch hose, 3,700 feet of 2½-inch hose and 700 feet of 1½-inch hose, the latter used in the overhaul.

Two manifolds supplied eight hand lines while the remaining hand lines were 2½-inch, taken directly from the hydrant gates. In this fire it was noted that notwithstanding the magnitude of the operation, the usual "spaghetti" tangle of hose was conspicuous by its absence.

Chief Weaver reports to FIRE ENGINEERING that the present total of 1,700 feet of 4-inch hose maintained by the Wenatchee Fire Department is the equivalent of 6,800 feet of 2½-inch hose which would be necessary to give the same performance. He states, "I have yet to see a pumper lay four 2½-inch lines to a fire or carry 4,400 feet of 2½-inch hose."

The chief believes that the addition of the large hose affords his department of 24 men striking power unequalled by many larger departments. He sums it up in these words, "We feel we are bringing the hydrant to the fire where it is needed and the use of this equipment makes all hydrants four or six-ported ones." □□

Below: Testing large hose as suction and supply lines. In addition to the four hand lines supplied by the special manifold, two more are taken directly from the hydrant. **Right:** The single large supply line stretched on the street permits movement of apparatus with less difficulty than would be possible in the spaghetti maze of 2½-inch hose required to equal its carrying capacity

Gas flames flare skyward at one of Manhattan's busiest corners on December 4. "All hands" had hard hour's job to prevent extension. Three were injured

Gas Geyser Erupts on Busy Broadway

THE IGNITION of illuminating gas escaping from a 24-inch main on the Consolidated Edison Company of New York on December 4 touched off a blaze that lit up the corner of Broadway and 40th Street, Manhattan, like a giant torch. Three persons, two of them Edison employees, were slightly injured by the flare-up and a full-alarm assignment of four engines, two ladder companies and other midtown units of the New York Fire Department put in a hectic hour's work before the danger of a major disaster was averted.

At 1:00 p.m. the area around Manhattan's Times Square is normally one of the busiest, most crowded sections in the big city; on that Wednesday it was unusually jammed with shoppers and vehicular traffic. The roads were icy with slush and snow.

Edison employees were working in a shallow trench on the west side of Broadway, repairing a leak in a 24-inch cast iron gas main when in some undisclosed manner the escaping fumes ignited. Press reports that a carelessly tossed cigarette butt which landed in the trench was responsible are discounted by fire fighters.

The flaming geyser erupted near the northwest corner of 40th Street, sending flames 20 to 30 feet in the air and sending pedestrians scurrying to escape the heat. Three Edison workers scrambled out of the ditch, but not before two of them received burns. One woman passer-by was scorched and shocked.

Box 767, Broadway and 40th, was snapped, bringing Engines 26, 65, 34 and 1, Ladders 21 and 24; the chiefs of the 7th and 9th Battalions and Chief Wood of the 3rd Division.

All companies were immediately put to work, first efforts being directed toward protecting the immediate exposures and removal of people from the endangered structures; next to protect against possible further explosions and shut off the supply that provided fuel for the fire.

Five hose streams, alternating between straight streams and fog, were quickly bearing upon both the fire and endangered premises, to break up the heat wave and prevent radiation. In this, fire fighters were successful, the only reported damage being to a window of a snack bar which was cracked.

Ladder 24, which is equipped with double ladder pipes, was raised on the east side of Broadway and supply lines were hooked up ready for operation. Crews of ladder companies were dispatched to examine exposed buildings, and to aid Edison crews in shutting down the gas supply system. Meanwhile, details of police attempted to clear the area of sightseers and shoppers—a herculean task.

It took some time before the gas supply could be valved off. As soon as this was accomplished, water fog was used to extinguish the fire which fed on the residue of gas left in the pipe. However, because of the possible hazards remaining from the accumulated unburned residue a watch was set to prevent smoking and other possible means of ignition.

Edison and fire department authorities agreed on the pressure in the main—approximately 6 inches of water at the time of the fire, but no reasons for the escapage or ignition have been officially advanced. The theory was advanced by some that the leakage was the result of a flood which occurred only a short time before, when a large main burst on 40th Street.

Metropolitan New York has been plagued by an increasing series of breaks and ruptures in water and gas supply lines during the past year. Many are said to have been the indirect result of blasting for foundations of new structures being erected during the city's building boom. □□

MASS MOBILIZATION

Continued from page 34

Fire again broke out in three gasoline storage tanks said to have been damaged in the initial fire at the refinery following an explosion shortly after noon on Friday the 6th. Strong winds pushed flames dangerously close to several other large tanks containing high octane jet fuel.

At 1:30 p.m., firemen under Chief Henry Boos of St. Bernard, reported they had brought flames in two of the containers under control, but were hampered by the wind in fighting the third tank blaze.

Again plant officials and local firemen issued an emergency plea for supplies of foam as fire fighters, police deputies and civil defense workers from neighboring parishes joined St. Bernard firemen and volunteers to combat the new threat. Again, National Guardsmen hustled ambulances and jeeps to the scene.

Chief Howard L. Dey of New Orleans dispatched the same amount of fire equipment to this emergency that had fought the gruelling struggle of the 4th. Among the forces rushed to the scene was a pumper from Shell Oil Co. at Norco.

Jefferson Parish sent three engines, all available ambulances and Civil Defense workers. Keesler Air Force Base at Biloxi, Miss. and others were asked to send more of the dwindling supply of foam. Additional floodlights also were requested in the event the struggle continued through the night.

All 126 Ingram employees were urged to report for action at the plant. Again nearby residents were threatened with evacuation. However, hard work by fire fighters brought this blaze under control by 2:30 p.m. and the mutual aid forces began to return to their home quarters.

No serious injuries were reported in the second fray, nor were the damages caused by this flare up disclosed. □□

ACKNOWLEDGMENT: FIRE ENGINEERING *gratefully acknowledges the assistance of the New Orleans Fire Department, Superintendent Howard L. Dey and Assistant Superintendent Edward J. O'Brien, for data and photographs used in the preparation of the foregoing subject.*

One of the victims of the Pittsburgh gas main leak is shown being revived at the scene. Another casualty was not breathing when taken from the manhole. However, use of the resuscitator restored his breathing while he was being taken to hospital

Dramatic Pittsburgh Rescue Operation Averts Possible Catastrophe

FIREMEN AND POLICE, using safety equipment, recently saved several lives and averted a major catastrophe when a bridge construction crew broke a 20-inch gas main in downtown Pittsburgh. Working against odds, time, and a traffic jam which involved more than 50,000 vehicles, the Steel City firemen and police pulled eight men from a gas-filled manhole, administered oxygen, and rushed the victims to hospitals. One man was dead when removed however.

Gas ignited by torches

The break occurred when the main was struck by piling being driven for the new Fort Pitt Bridge across the Monongahela River, near the point where the the Monongahela and the Allegheny form the Ohio River. The main, buried 15 feet underground, parallels the south bank of the river. The escaping natural gas seeped upward through the ground and was ignited by torches being used by the construction workers.

The gas company sent a crew to the scene to put out the fire. Then the crew started digging to find the leak. About 2 p.m., Julius Colosimo, the crew foreman, went down into a manhole about 100 feet from the leak, apparently seeking a valve in order to turn off the main. Once inside the 6-foot square "room" at the bottom of the 20-foot shaft, he seemed to realize that he was in danger because of gas fumes which had reached the place. He started up the steel ladder but fell back into the hole unconscious.

Two fellow workers and two bridge pile drivers made a vain attempt to rescue him but were overcome. Three firemen, wearing filter type masks, then went into the pit but were overcome because there was insufficient oxygen in the atmosphere of the hole to sustain life even when the gas was filtered out by the mask's canisters. Safety officials later said the firemen should have been wearing self-contained breathing apparatus.

An unidentified man uncoupled some compressed air hammers and thrust the air hose into the manhole. This helped flush the lethal fumes from the hole and enabled firemen wearing filter masks to bring up the men who had been overcome. Although this emergency measure was successful, safety officials later said that it was "very lucky" the air pumped into the hole didn't lead to a major explosion.

By this time, hundreds of cars were starting to use the nearby Point Bridge,

Continued on page 76

Firemen and police in operation shortly after the break in a 20-inch gas main in Pittsburgh. Rescuers saved eight men overcome by gas fumes in a 15-foot deep manhole

Volunteer firemen from six East Brunswick Township fire departments are uninjured as wall of blazing rag-rubber scrap warehouse tumbles. Vamps played eight "return engagements" to douse rekindles before smoldering wreckage was removed and buried

Rags and Rubber Blaze Taxes Brunswick, N. J., Area Volunteers

By WILLIAM C. PECK

A RAGING FIRE, of undetermined origin, destroyed a warehouse occupied by T. Capo & Sons, Inc., a rag and scrap rubber reclaiming concern, on Highway S-18, East Brunswick Township, N. J., the afternoon of September 18, giving the volunteer firemen of the area their hardest workout in many months. At the time of the fire the two-story concrete block warehouse was loaded with bales of rags and rubber, most of them already pulverized and ready for shipping. To further complicate matters a number of truck trailers, all loaded with bales, were parked at the loading platform.

Five employees were working in the warehouse when the fire broke out and quickly spread through the lint and dust to involve the bales of scrap materials. The East Brunswick Police Department dispatcher received the first call at 2:59 p.m. and immediately dispatched the East Brunswick Independent Fire Company No. 1 to the scene. Members of this company radioed for assistance en route to the fire, the pillar of black smoke rising in the sky indicating a fire of major proportions. Upon the arrival of the first pumper the fire had involved the entire interior and was burning through the roof.

Volunteer firemen and apparatus from the Old Bridge and Brookview Fire Companies, also of East Brunswick Township; the South River Fire Department and the North Brunswick Fire Company No. 2 soon arrived in response to the appeal for aid. The New Brunswick Fire Department relocated a pumper in the quarters of the Independent Fire Company and the Milltown Fire Department was placed on a stand-by basis. Rescue squads from East Brunswick and South River also sped to the fire.

Two pumpers from South River and one each from the Independent Fire Company and Old Bridge pumped from hydrants along Highway S-18 while one pumper from Old Bridge drafted from a lake about a half-mile distant, and one pumper from North Brunswick drafted from a drainage ditch several hundred feet from the warehouse, pumping run-off water from that being poured onto the fire.

Eight trailers, all involved with fire, were pulled away from the loading platform during the early stages of the fire. Firemen under the general direction of Chief Louis H. Raab of the Independent Fire Company, poured tons of water from hand lines and one portable turret into the raging interior of the structure. The roof completely burned off and the rear wall and one side wall collapsed narrowly missing a crew of firemen. Hose lines stretched across S-18 completely paralyzed traffic on this very heavily traveled highway.

All outside fire companies were released by 9 p.m., but the members of the Independent Fire Company remained at the scene until 3:30 a.m. the following morning. The Spotswood Rescue Squad sent its floodlighting equipment to the scene shortly before dark.

Wetting agents used

Although the bulk of the fire was knocked down by midnight, bales continued to break into flames minutes after hose streams were directed elsewhere. It was evident that to attempt to extinguish the rubber products with water alone was going to be a tedious and lengthy task.

In an effort to remedy this situation a supply of wetting agent was secured through the cooperation of Chief Edward C. Beecher of the Belle Meade General Depot, U. S. Army. The particular surface tension reducing agent was blended with the pumper stream in a proportioner located on a pumper. This blender which could be removed and used as a portable unit, was set up in the street as close to the fire as possible, and the entire supply of eight cartridges, was used. It is estimated that in the two-and-a-half hours during which the wetting agent was applied through a 1½-inch hose line, well over 8,000 gallons of treated water were thrown upon the burning bales.

According to Chief Beecher, this application was effective, where it could be concentrated to any appreciable degree, but the burning area was so large that the application was of necessity limited and after the supply was exhausted, the effort was discontinued. Members of the Independent Fire Company had to return to the warehouse eight times during the following week and a half, to pour thousands of gallons more of water onto the smoking debris.

Fire fought 34 hours

Finally, on October 1st, the remaining walls of the building were pulled down and the smoldering debris removed and buried. All told, members of Independent Company spent a total of 33 hours and 56 minutes in service at this warehouse. Most of the time and effort was devoted to coping with the repeated rekindling encountered.

Weary firemen were served coffee and sandwiches by members of the Women's Auxiliary of the East Brunswick, Old Bridge and South River Fire Companies.

John Capo, one of the owners of the wrecked concern, has estimated the loss, including building, contents, all equipment and trailers, at between $100,000 and $150,000. □□

"Keeping the home fires burning" is definitely no motto for these Norfolk, Va., fire fighters, ganging up to prevent destruction of their Station 2

Chief Injured Fighting Firehouse Fire

Fire Chief W. J. Lewis of the Norfolk, Va., Fire Department, was injured December 12 last, when he fell through the pole hole of Fire Station No. 2 in the 400 block of East Bute Street while directing operations at a fire which threatened destruction of the building.

The 45-year-old brick structure housed the two units of Engine 2 and Salvage 1. At the time of the fire, the latter was out of the building on special detail in connection with a Christmas toy drive.

The chief's accident was due indirectly to the heavy pall of black smoke which reduced visibility within the upper part of the building to almost zero and which seriously handicapped fire fighters in attacking the fire, even some who had donned breathing apparatus.

Chief Lewis fell about 15 feet through the pole hole, landing on the concrete first floor. The extent of his injuries was not immediately determined; he was removed to the hospital for X-rays after he complained of head and back pains. A fireman, A. L. Sykes, was cut on the face during operations.

Captain Byrd Wilson of the engine company and his men discovered the fire shortly before 10:00 a.m. and drove their apparatus to the street, at the same time transmitting an alarm. The first line was stretched from a hydrant directly across the street and taken into the ground floor and up a circular iron stairway. By this time, according to the captain and Deputy Chief James Hatton, who responded to the alarm, smoke was backing down to within a few feet of the apparatus floor.

Two alarms sounded

Two alarms were sounded for the blaze, which originated from an undisclosed cause under the roof of the structure and spread to the roof area and ceiling of the upper floor.

Assistance quickly arrived on the scene, from Stations 1 and 6 and other companies, and the flames were attacked from within and above and through the rear windows and quickly brought under control. Units began picking up by 10:30 a.m. Fire damage was confined to the attic and roof. The second floor captain's office, sleeping quarters and wash room suffered water damage. Residents of an adjoining frame dwelling moved out their belongings at the peak of the fire but flames did not involve their premises. The freezing temperature quickly turned water on the ramp and street into a "skating rink," adding to the difficulties of the fire fighters.

Chief Lewis was somewhat chagrined over his mishap. He disclosed the fact that 13 of his many years in the department had been spent in that same station. "I've slid down that pole more times than you are days old," he told a reporter after the accident. "Of course, smoke hid it—but I can't understand it . . . 35 years with the department and I have to fall through a pole hole."

According to available data the Norfolk Department operates 12 engine companies, one quad, six ladder companies, one emergency unit and two salvage companies. The apparatus is housed in 12 stations and manned by a total complement of 344 firemen. □□

San Francisco Firemen Visit Refinery

Over a hundred members of the San Francisco Fire Department have been recent guests of Tidewater Oil Company's Avon Refinery near Martinez, Calif. Led by Chief William F. Murray and Deputy Chief Carl F. Kruger, the San Francisco visitors observed fire fighting techniques and equipment used in the petroleum industry.

The 104 visiting firemen consisted of three groups of about 35 each which visited the refinery on successive days escorted by W. B. Klaus, manager of Tidewater's western fire protection department.

In addition to the chief and the deputy chief, the groups included Albert E. Hayes, the city fire marshal; an assistant chief, three battalion chiefs, 16 captains, 32 lieutenants, 23 fire prevention inspectors, and 26 firemen.

After an automobile tour of the 1,200-acre refinery, the visitors witnessed almost 20 demonstrations of fire control and extinguishment using different types of petroleum fuels in many situations. The display was staged on the refinery's fire training grounds by four of the plant's 20-man, full-time, professional fire force under the supervision of acting refinery fire chief, H. E. Wyffels.

San Francisco's Deputy Fire Chief Carl F. Kruger and W. B. Klaus, manager of Tidewater Oil's western fire protection department, discuss operation of a foam generator

Volunteers Spark Unusual Rescue Operation

The Fairmount Fire Company of Lansdale, Pa., was faced with an unusual task one Sunday morning. Three workmen had begun painting the interior of the town's 2,000,000-gallon elevated water tank with the aid of a scaffold erected near the top. The scaffold broke under two of the men, pitching them to the bottom. The third man made his way down to the victims and found them unconscious and critically hurt. He then returned to the top of the tank, climbed down the 150-foot side ladder to the ground and called for help.

Chief LeRoy B. Rittenhouse of the Fairmount Company received the alarm at his home. Weather conditions at the time were poor. Wet snow was falling, the wind was high and the temperature was dropping below freezing.

Chief Rittenhouse sounded the alarm to bring the fire company out, as well as the Fairmount First Aid Corps; 46 men responded to the whistle. While the members were assembling and getting equipment to the base of the tank, the chief notified the police, the North Penn Hospital, and put in a call for special tackle.

The newly finished tank was in the shape of a flattened golf ball set on a tee. The central column of the tee (tank riser) measured 102 feet in height and 10 feet in diameter. The tank proper was 50 feet high. Entrance to the interior was by means of a manhole on the top of the "ball," 157 feet above the ground.

Ice was forming on the fixed metal ladder which extended from the ground to the top of the structure, as Chief Rittenhouse selected the men to perform the rescue. He chose six men whom he felt were equipped personally and physically for the task. Two of these men were telephone linemen by trade, used to hazardous climbing and trained by their company in first aid. The others were first aiders and known to the chief as strong, level-headed men.

The rescue crew climbed the icy ladder, disappearing from view in the blowing snow. Chief Rittenhouse climbed through the street level manhole in the riser tube and listened to the sound of the men's voices as they negotiated the "out-curving" inner wall of the tank to reach the bottom. Buckets of paint, thrown from falling scaffold, had splashed over the interior and made the precarious footing on the sloping floor even more dangerous.

Water tank in which rescue operation took place. Rescue crew climbed ice-covered ladder on structure to reach top and then made its way to bottom via out-curving sides. Spilled paint on interior made precarious footing even more treacherous

When the men called down the tube to notify the chief that they had reached the victims, Dr. Frank Boston of the North Penn Hospital entered the manhole to give medical directions. A rope was lowered through the tube and first aid supplies, tackle and two Navy litters of the type to which victims can be strapped and lowered in any position, were hauled up to the tank floor.

While the injured victims were given first aid and strapped to the stretchers, the other rescuers attached the tackle moorings to the heavy grating which covered the riser tube opening in the bottom of the tank. This operation was a feat in itself.

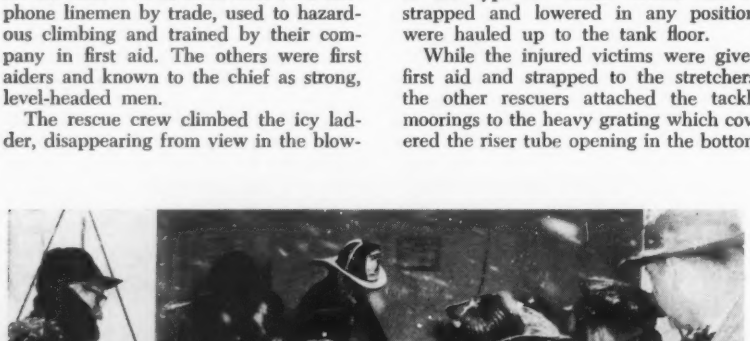
It was necessary for the rescuers to crawl through a trap door in the grating, work their way across the underside of the grating on slings, and attach the ropes at a point 8 feet from the trap door. By anchoring the hoist at this point it was possible to maintain the balance of the victims as they were lowered.

The first loaded stretcher started down the riser tube about 45 minutes after the original call. When it reached the bottom it was quickly removed to a waiting ambulance where doctors prepared the victim for removal to the hospital. Shortly after, the second victim was removed in the same manner.

The rescues were accomplished without mishap and shortly after their completion, the firemen inside the tank safely reached the ground.

From the spectators' viewpoint the operation was unspectacular; no action could be seen as it took place entirely inside the steel tank. The Fairmount Fire Company and others who assisted in the operation richly deserve the praise heaped on them by the grateful victims and the community.

Acknowledgement is made to the Montgomery County Firemen's Association for the above material which was taken from their "Year Book 1909-1957"; also to Nat Alexander, Sr., and Chief LeRoy Rittenhouse of the Fairmount Fire Company, Lansdale, Pa.



Injured victim is removed from manhole at bottom of tank riser. Rescuers lowered men by means of block and tackle attached to Navy-type litters. Doctors stood by to give medical directions and attention during unusual operation performed under hazardous conditions

L. A. Firemen Felled By Rat Poison Gas

Two Los Angeles, Calif., firemen were hospitalized and five others forced to go off-duty during a two-alarm fire in a San Fernando Valley building supply occupancy.

The fire occurred in a large one-story frame building containing new and used windows, doors, plywood, etc., and was connected to a retail store in which builders' hardware and war surplus material, mostly paint, was sold.

As fire crews penetrated into the building one of the stricken fireman became very nauseated and complained of a severe headache.

During overhauling operations, two cases of hermetically sealed, one-pound cans of calcium phosphide were discovered in the debris. Some of the cans had broken open and the contents had gotten wet, apparently reacting with the water used in extinguishing the fire to give off a toxic gas.

Later, Captain Leo Najarian of the LAFD Fire Laboratory, analyzed the compound and its characteristics. His investigation showed that the calcium phosphide is a red crystaline, ICC yellow-label flammable solid. Widely used as a rat poison for many years, the material came into wartime use in emergency life raft flares. Some of these rafts were among the store's war surplus items.

Captain Najarian said calcium phosphide in contact with water generates phosphine, a very toxic and spontaneous flammable gas. ***Paul C. Ditzel***

Two died in Bellows Farm Sanatorium at height of fire. Note flimsy construction; part of this building was formerly used as a cow barn

Converted Barn Sanatorium Fire Claims Two Lives

The early morning of November 6th saw two more victims added to the all-too-long list of convalescent home fire fatalities.

The scene was the Bellows Farm Sanatorium in Acton, Mass. (pop. 4500). This establishment, operated by a former professional wrestler and his wife, a registered nurse, specialized in the care of ambulatory patients suffering nervous disorders or alcoholism.

The property was formerly a large dairy farm, located at the end of a narrow road leading off route 2A, about two miles from Center Village. The buildings are surrounded by woods and fields for a considerable distance. Both buildings and grounds were very well maintained and outwardly made an impressive appearance. The large white Colonial farmhouse was occupied by the family of the owners; a large barn in the rear had been converted to a recreation hall and a number of other farm buildings had been connected together and added to and served as a dormitory and gymnasium for the patients; parts of this building had a second story which was used as living quarters for the hired help. It was this structure which was involved by fire. At the time that these buildings were converted, there were no building ordinances, and little attention seems to have been given to fire prevention in either materials or methods used.

Shortly prior to the fire, the local fire chief, H. Stuart MacGregor, made a thorough inspection of the property and found general house-keeping practices in good order, but was concerned with the inherent hazard of the dormitory building. He recommended that a complete fire detection system be installed throughout this building. The owners were readily agreeable to this recommendation, however time had already run out. For shortly after 1:00 a.m., just four days later, fire struck.

An attendant who was aroused by smoke in the dormitory building, turned in the alarm. The Acton dispatcher received the call for the fire at 1:19 a.m. and immediately struck the box for this location which is automatically a general alarm, bringing out the entire department, consisting of four engines, a 500-gallon tanker, a ladder truck and a rescue truck.

Rescue had priority

The first companies in found the building heavily involved, and all hands concentrated on search and rescue of the occupants. Fortunately there were only about a dozen patients in the building at the time of the fire; there have been times when there were as many as 30 in the occupancy.

There was considerable confusion in accounting for the occupants; a number of those carried out had been overcome by smoke and required immediate revival effort, which further delayed a concentrated attack on the fire.

The nearest hydrant, which was about 700 feet away, and fed by a small, badly tuberculated, dead-end main, proved to be of little value and lines had to be stretched nearly 2,000 feet to a hydrant on the 16-inch main out on the main road. To cope with this situation, Chief MacGregor called for outside aid which brought a 1000-gpm engine and a 65-foot aerial from Concord; a 500-gpm engine from Littleton, and a 400-gpm and a 600-gpm engine from Maynard. A total of 9,100 feet of 2½-inch and 750 feet of 1½-inch hose was laid.

The building involved was almost completely destroyed. During the fire, the body of one victim, a patient, was recovered but the body of the second victim, an attendant, was not located until after the fire was brought under control.

Loss to the building was set at $80,000 and contents at $12,000. Two Acton fire fighters suffered burns of the face and hands.

Henry T. Hanson

Centerport Plans For Nursing Home Emergencies

The Centerport Fire Department, Suffolk County, Long Island, N. Y., protects four nursing homes and one boys' camp in its district. In order to keep up with changes that may occur in these occupancies and to prepare for possible emergencies a definite plan of operation is followed.

Chief Richard Reynolds and the ten officers of the department inspect each of the locations at regular intervals. The visits cover in detail the heating systems, kitchens, means of egress, etc. Photographs are taken of the exterior of all buildings, interior stairs and other sections that might present special problems in rescue and fire extinguishment.

The photographs are then made into slides and are shown to all members of the department at drill periods in conjunction with a report on the inspections.

A plan of rescue and fire fighting operations is laid out for each occupancy and is outlined on a large card which is kept in a handy location. If an alarm is received for one of the homes the officer in charge of the first company responding is given the card.

From this he can quickly review the steps necessary to rescue bedridden patients and note their exact location; the location and necessary procedures for rescue of ambulatory patients; hydrant and water supply information; placement of pumpers for best results; hose lays required and where a field first aid station should be set up.

In conjunction with the response the Centerport dispatcher notifies the Huntington Police Department for police response; adjoining fire departments under the Mutual Aid plan, and also obtains the services of Civil Defense rescue truck.

Because of these inspections and in cooperation with fire department recommendations, each of the occupancies has installed automatic fire detection systems which are directly connected to the Centerport alarm office.

The initiative and effort displayed by the Centerport Fire Department in this phase of fire prevention and protection resulted in the *New York Daily News* presenting the organization with its News Vamps Award in March 1957.

Typical converted residential mansion nursing home found in Centerport Fire District. Illustration is taken from a slide used to train fire department membership

Los Angeles County Adds Personnel Bus

The Los Angeles County Fire Department has recently taken delivery of a new 33-passenger bus. Although it is to be used primarily to transport relief personnel to major conflagrations, Chief Keith Klinger said it is also being utilized for moving departmental recruits to their various training sites, such as oil fire fighting at Santa Fe Springs and watershed areas.

Recently, during a large structural fire, the group of recruits in training boarded the bus and were taken to the fire scene where they observed and were instructed on the different operational techniques. The interesting detail of this incident was the fact that the trainees had only started their duty at 8 a.m. that morning —two and a half hours later they were at the fire.—*Los Angeles County F. D. photo*

Parishoners of United Church of Christ evacuate building during fire drill. Members of Hagerstown Engine 1 participated in test which cleared church and Sunday school rooms in approximately three minutes

Hagerstown Church Fire Drill

Throughout the year 1957 FIRE ENGINEERING endeavored to bring its readers the accounts of outstanding church fires and measures being adopted to prevent them. We are glad to report that ecclesiastical heads and fire prevention authorities have made excellent use of this published data to accomplish installation of many automatic fire detection, alarm and extinguishing systems in religious edifices.

The editors expect to continue this worthy effort in the year just starting as evidenced by the following interesting report from Hagerstown, Md.

REVEREND Lawrence N. Strunk, pastor of the United Church of Christ, Hagerstown, Md., is pioneering an idea for church safety that has merited the praise of community and church officials in his area. Reverend Strunk's attention was first drawn to the subject when he read in a religious publication of a near-panic caused when smoke and odor of burning insulation created by an overheated wire in a church basement alarmed a congregation. He immediately became concerned for the safety of his own flock and especially the more than 300 children who attend Sunday school.

Reverend Strunk immediately got in touch with Hagerstown Fire Chief John W. Hall and asked the chief to meet with him and his assistant, the Reverend Joseph Clem, to survey the church property and assist him in preparing an evacuation plan.

Based upon the inspection findings, it was decided to install an internal alarm system with buzzers located in each of the rooms used for church activities. By prearrangement, a plan was worked out whereby in case of emergency each child under school age would be taken from the building by an adult to a large parking lot where they would be united with their parents. The church ushers were given special instructions in their duties and all parishioners were informed to leave the immediate church area in order not to hamper the effects of responding firemen.

To test the efficiency of the plan a fire drill was decided upon and scheduled for Sunday, October 13, at 10:18 a.m. This time was selected for the period when only the Sunday school would be in session.

Engine 1 of the fire department participated and the drill was carried out to the satisfaction of fire officials although some difficulties did arise. One school class did not recognize the buzzer as a fire alarm signal, although the entire building was evacuated in approximately three minutes. Gongs have been ordered to replace the buzzers and plans are now ready for a drill while church services are in progress.

The Reverend Strunk stated that to his knowledge there have been no objections to the planned drills. On the contrary, many parents have made known their pleasure that the church has taken steps to care for the safety of their children. Chief Hall has congratulated the pastor for his efforts to make the church a safer place for the people and stated his hope that more and more of the clergy will accept the challenge and help lead the way toward a year-round church fire safety program.

17 Die in South's Cold Spell

The brief, but unprecedented cold snap which struck the South early in December brought death to 17 persons in four fires.

A family of eight, a husband, wife and six children, was wiped out in fire of undetermined origin which swept their rural tenant house in Ellabell, Ga. Fire fighters were handicapped by 20-degree cold.

Five persons died in a fire at Nelson County Infirmary, Bardstown, Ky. Lack of water and 10-degree temperature hampered firemen. Cause—defective furnace.

Three children perished when fire destroyed their home near South Shore, Ky. Parents led three other children to safety. Cause—overheated stove.

One guest died, several others were injured in a hotel fire in Greenville, Tex.

Above: Three-year-old Carl Melanese wearing his iron hub collar. **Below:** A grateful youngster rewards his rescuer

'Doc Eiter'— Hacksaw Surgeon

This is the way the *San Diego Union's* report had it.

Three-year-old Carl Melanese was right in the hub of things out in North Park (a part of the City of San Diego)—Carl, an inquisitive youngster, was playing in a neighbor's backyard near his home at 4730 Oregon Street, Normal Heights, just after noon, when he found an iron hub from a wagon wheel.

Being three years old, Carl naturally slipped it over his head. He couldn't get it off.

"Mama," cried Carl.

"Carl," said his mother, Mrs. Joseph A. Melanese.

With that, Carl, Mrs. Melanese and the neighbor . . . Mrs. Harry West . . . started a 30-minute fruitless attempt to slip off the six-inch iron band.

Get some soap," someone suggested. But soap didn't work.

"Get some grease," said someone else. But grease didn't work.

Patrolman Huntly S. Gordon responded. He took Carl, Mrs. Melanese—and the iron hub—to a fire station at 4011 32nd Street.

With Chief George Courser standing by, the decision was made.

"We'll have to operate," was the opinion. Fire Captain Wallace E. Eiter studied the problem carefully. Then—

"Hacksaw," said Eiter.

Five minutes later Carl was free.

That's the way the story ended. But there was more. What the paper didn't say is the fact that Captain Eiter is a handy man with more than a hacksaw. He happens to head up the fire department shops, under Battalion Chief and Master Mechanic Robert Ely—the very same shops previously pictured and described in FIRE ENGINEERING. Whether it's a ring off a swollen finger, a foot out of a pipe, a lock out of a door, or a hub off a neck, he's a specialist. We reckon the fellows will all call him 'Doc' from now on.

Corroded Extinguisher Blast

The Greater Chicago Safety Council reports an accident where "Hand Fire Extinguisher Causes Death Of Employee" as follows:

A small fire had broken out. An employee, a very capable workman, was going to use a 30-pound dry chemical type hand fire extinguisher to put it out. He rested the extinguisher on some grating. Facing the front of the extinguisher he bent over to put it in operating condition at which time the front part of the cylinder separated from the bottom and took off like a rocket striking the employee in the head.

Because only the bottom of the extinguisher was found at the scene of the accident and because of the nature of the injury, the immediate assumption was that the rest of the cylinder had exploded in some way and shattered to bits. However, finding the front part of the extinguisher intact was evidence that there was no explosion. It separated from the bottom of the extinguisher, took off, struck the employee, and continued through the air to some 30 feet away.

After intensive investigation it was concluded that the bottom of the extinguisher had been weakened from corrosion, resulting in the separation.

Further studies of this accident will be made but in the meantime the following precautionary steps are recommended:

1. Immediate inspection of all fire extinguishers for corrosion.
2. Special emphasis on inspection of extinguishers which come in direct contact with the floor for any extended period of time, and those which come in contact with acids, or are located in acid areas.
3. Hydrostatic tests of extinguishers at regular intervals as conditions warrant.—***American Society of Safety Engineers News Letter***

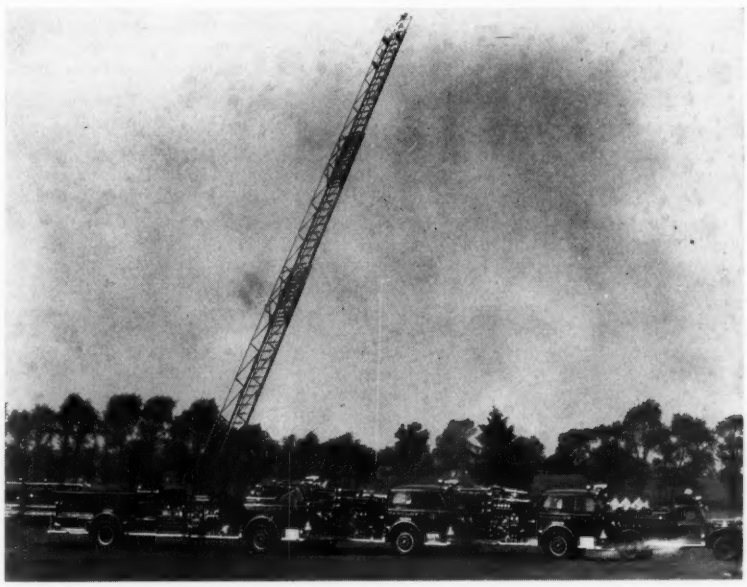
Yardley Fire Company No. 1 in Service for 60 Years

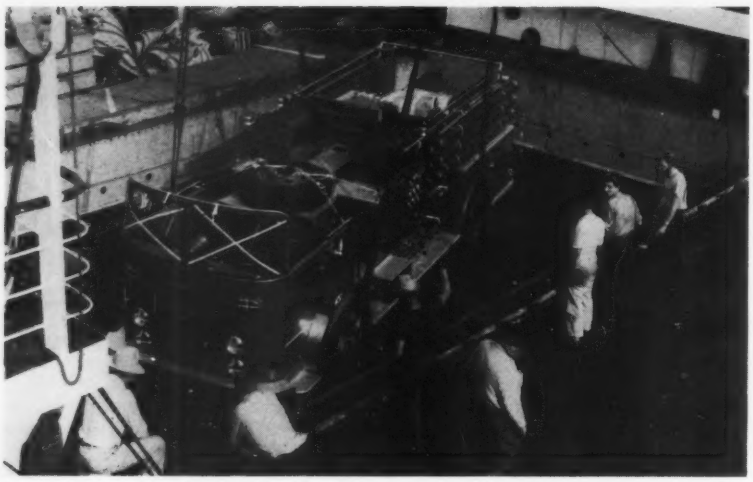
Following a serious fire in the Yardley, Pa., business district, a group of civic-minded residents met on December 14, 1897 and established a volunteer fire company. The first equipment purchased by the group, at a cost of $100, consisted of a hand-drawn wagon fitted out with ladders, buckets and "other fire fighting accessories."

The first motorized apparatus, a combination hose cart and chemical tank, was purchased in 1915. Today the apparatus complement consists of an American LaFrance "quint" with a 75-foot aerial and 750-gpm pump; two American LaFrance 750-gpm pumpers; and a Dodge Power Wagon utility unit. All vehicles are radio-equipped and valued in excess of $100,000.

At present the company membership roster numbers 107 volunteers under the command of Chief John Ziaylek. Property values of the district protected by the company exceed $6 million.

During the flood of August 18, 1955, the entire company and its equipment were taxed to the limit. To help rehabilitate flood victims 61,000 man-hours were spent pumping out 400 cellars and over 5,200 man-hours were devoted by the firemen operating lighting units to help prevent looting and pilfering.





New triple-combination pumpers for Kuwait Fire Brigade are loaded on ship at Los Angeles Harbor. Lettering on sides of cab is in English and Arabic—*Photo by Warren Bowen*

New Pumpers for Kuwait

Four triple-combination pumpers are on their way by ship from Los Angeles Harbor to the oil sheikdom of Kuwait in the Persian Gulf area.

The apparatus were ordered two years ago by Chief Ali Abdul Razzeh Saleh of the Kuwait Fire Brigade and Ambulance Corps while on an extended training visit to Los Angeles.

The pumpers, the first exported by the Crown Corp., are built close to specifications of the Los Angeles County Fire Department. That department tested the equipment and accepted delivery for Chief Saleh who flew to Los Angeles to personally supervise loading of the big rigs. They have 600-gallon stainless steel tanks, 332 hp engines, power steering, air brakes, all fittings and connections of bronze or copper, two hose reels with 150 feet of ¾-inch high pressure hose, 1,500-gpm pump, 80 feet of suction hose, 1,800 feet of 2½-inch hose and 600 feet of 1½-inch.

When Chief Saleh was on the Coast he trained with both the Los Angeles City and County Fire Departments under supervision of the Fire Administration Training Program of the University of Southern California. ***Cliff Dektar***

Spectacular Fire Destroys Portion of Florida Bridge

Sparks from an acetylene torch were credited with starting a fire on August 1, 1957 which eventually destroyed nearly half of a three-quarter mile long wooden bridge spanning the Myakka River near El Jobean, Florida.

The efforts of three fire departments were required to halt the spread of the flames. In addition, a state highway crew, working on the bridge at the time, cut one of the bridge spans in order to prevent the fire from reaching a recently rebuilt section.

Responding to the alarm received at 1:30 p.m. were the Punta Gorda Volunteer Fire Department, 18 miles distant; Englewood Volunteer Fire Department, 11 miles away; and one company of the Fort Myers Fire Department which traveled 40 miles to reach the scene.

According to reports, sparks from the torch touched off the blaze in creosote-treated timbers and in a matter of minutes the span was ablaze. The boiling black smoke was visible for 20 miles and hampered fire fighters.

The greater part of the fire fighting operation was carried on underneath the bridge with firemen standing in water which at times reached their chins. The Englewood Department improvised a fire boat at the scene and used it with good effect. The fire was declared out at 4:45 p.m.

Several Punta Gorda firemen were treated for creosote burns and all were given oxygen to overcome the effects of the heavy smoke and fumes.

Damage to the bridge was estimated at $100,000 by state road department engineers. About 100 feet of badly damaged flooring was all that remained of the north half of the structure.

—W. Earle Davis

Heavy creosote and wood smoke pall hangs over Myakka River as flames destroy half of El Jobean bridge. Fire departments which fought the fire were required to respond long distances to reach the scene

Milwaukee Promotes Fire Film

Five thousand Milwaukee citizens during the first five months of 1957 viewed "The Heat's on Milwaukee," an action file depicting the city's major fires during the previous year. This was disclosed in a report to Chief of Department Edw. E. Wischer by Battalion Chief Edward B. McCabe, the chief's public relations representative.

The film is a recording of on-the-spot action taken by the news photographers of the local television stations. The title, background music, script and narration was done by the Film and T.V. Department of Marquette University. The Fire Department Athletic Fund sponsored the entire production since public funds were not available.

Nine fires are shown, covering the loss of life in a tenement fire to the complete destruction of a plastics factory. The story of fire prevention is interwoven with the exciting and dramatic action. Part of the film is devoted to the Market Street fire of January 15, 1956, in which six people perished. Charles Scuriba, staff photographer for WISN-TV, was on the scene with the first arriving companies. His excellent camera work won first place at the National Press Photographers' Conference in 1956. The film is capped with a fire prevention message by Chief Wischer. The public relations staff has appeared with the film before 44 groups such as P.T.A.'s, civic clubs, and industrial, fraternal and religious organizations. Judging from the reaction of the audience and the manner in which it has been generally received, the Milwaukee Fire Department feels that this documentary is probably the best fire prevention and public relations vehicle yet devised. A new production, containing even more dramatic action, is being planned for 1958.

Fire Boats Stage 'Colorful' Farewell To Air Force Officer

When Colonel Paul S. Blair, commander, Northern Air Materiel Area, Pacific, recently retired, the usual military courtesies were extended to him. Climaxing the ceremonies, as Colonel Blair and his family sailed out of Yokohama harbor they were saluted by a formation of six large US Army fire boats discharging streams of colored water.

Norris T. Morton

Refinery Brigade in Scotland

The Grangemouth Refinery, Grangemouth, Sterlingshire, Scotland, is a modern petroleum refinery located near the Firth of Forth. It maintains a fire brigade which is called the "Fire Service," consisting of a chief and twelve full-time firemen supplemented by auxiliary manpower from the maintenance personnel. The auxiliaries receive initial training from the brigade which is followed by monthly drills, practice fires and refresher courses. In addition, four full-time ambulance men are in attendance at the fire station to deal with all casualties.

Mobile equipment consists of one pump-foam tender capable of delivering 2,500 gallons of foam per minute, one general service truck, one emergency rescue trailer, four trailer pumps, one portable pump and a modern ambulance. Portable fire equipment throughout the refinery consists of some 500 extinguishers of chemical foam and carbon dioxide types.

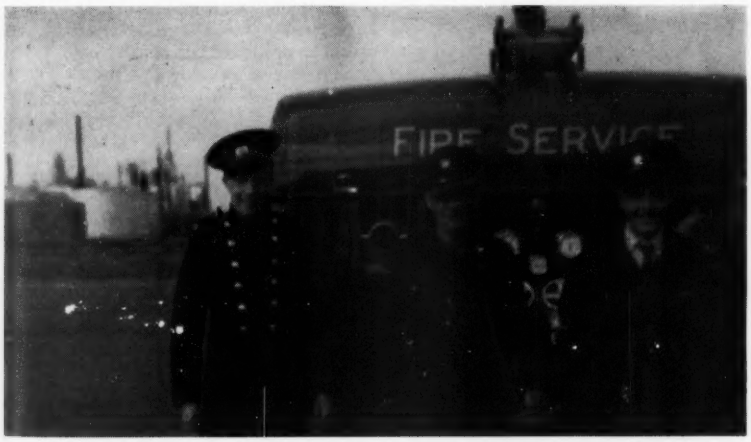
The main power station and all electrical substations and transformers are protected with fixed carbon dioxide and foam sprinkler installations.

Water for foam-making equipment and cooling purposes is supplied through 12-inch mains leading to all parts of the refinery. The mains are connected to two steam and one electrically driven turbine pumps, each with a capacity of 1,000 gpm. Fire department connection to the water system is by means of some 240 double-outlet pillar hydrants located at strategic points on the plant grounds.

The alarm system consists of 29 special phones terminating at a switchboard in the fire station. A direct connection is provided with the Grangemouth Fire Department.

The refinery places considerable emphasis on an efficient fire service, but even greater emphasis is placed on fire prevention.

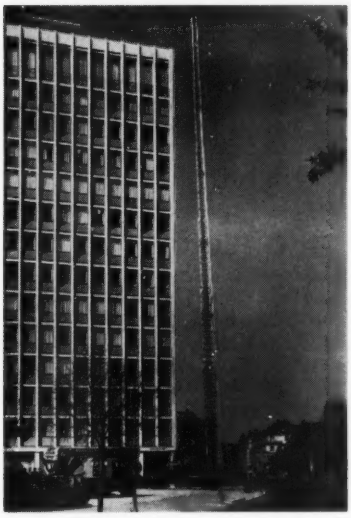
John Mills



Standing in front of the refinery pump-foam tender are (left to right) R. Dilson, oldest member of the brigade; John Mills, in charge of one shift, and R. Ferguson, youngest member

World's Tallest Ladder

What is claimed to be the tallest turntable ladder in the world is produced by Carl Metz Corp., Karlsruhe, Baden, Germany. The model shown is said to be extended to a height of 172 feet.



The manufacturer states that all movements of the ladder are hydraulically controlled with operating power supplied from the chassis engine by a direct power takeoff through a special turntable ladder mechanism. It is claimed that within approximately 60 seconds this ladder can be elevated up to 78 degrees and extended to its full height. It is said that a fireman can take a position on a platform attached to the top ladder section before the ladder is extended and then move with the ladder to the required height.

It is fully automatic and equipped with mechanical safety devices to avoid overcharging and capsizing as well as damage occurred by hitting against objects during the ladder movements.

In addition, the apparatus is equipped with a Metz fire pump rated at approximately 750 gpm and a special "elevator cabin." The latter is provided for rescue purposes and travels up and down, underneath the ladder sections operating as an independent unit. Its location prevents any interference with the normal ladder use either in rescue or fire fighting.

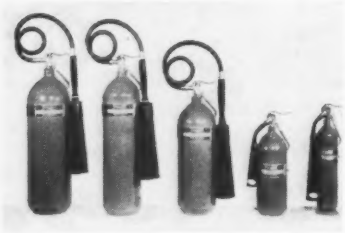
Communications are provided between the tip of the fly and the turntable by means of built-in telephone equipment.

WHAT'S NEW

Among the Manufacturers

- products
- processes
- personalities

New Alfco CO_2 Nozzle



A newly designed discharge nozzle having five orifice holes is now provided on five UL-listed American LaFrance carbon dioxide fire extinguishers. The usual opening in the center of the nozzle discharges parallel with the taper of the horn. The other openings are placed equidistant around the nozzle and discharge at right angles to the side of the horn.

It is claimed this enables the CO_2 snow to break into minute particles, giving almost instant change from snow to gas, thereby providing faster and more effective extinguishment of fire. Models equipped with the new nozzles are 2½, 5, 10, 15 and 20 lbs. For further information write to American LaFrance Corp., Elmira, N. Y.

UHF Base Station Transmitter

General Electric Company is producing a new high-power UHF base station transmitter engineered to deliver up to 250 watts, which may be licensed for operation in the 450-460 mc band. It is claimed the new transmitter increases power output up to 12 db and enables dispatchers to talk up to 50 per cent farther. For further information write to GE Communication Products Department, Electronics Park, Syracuse 1, N. Y.

Eagle Signal Appointment

The Eagle Signal Corporation of Moline, Ill., has appointed Traffic Engineers Supply Corporation, 5204 Lakeside Avenue, Richmond 28, Va., as their sales representative in the states of North Carolina, South Carolina, Virginia and West Virginia, except the panhandle section.

University Speaker Catalogue

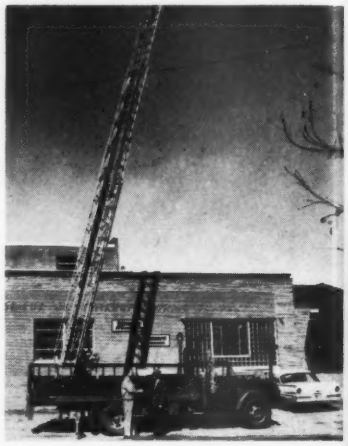
A new illustrated catalog has been published by University Loudspeakers, Inc., 80 South Kensico Ave., White Plains, N. Y., which contains product descriptions, specifications, applications.

Kidde-Atmo Fire Detection System Demonstrated

A public test of the new Kidde-Atmo fire detection system was held recently at the plant of Screen Products Company, Inc., West Passaic Avenue, Caldwell, N. J. To test the system, which operates on a pneumatic principle, Mr. Raymond H. Just, president of Screen Products, ignited a standard Underwriters' Laboratories pan of alcohol. The resulting heat actuated an alarm connected directly to Caldwell Township Fire Headquarters.

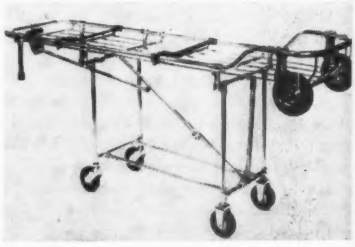
A crew of Caldwell firemen under the direction of Chief Pasquala Pollio, responded to the scene and extinguished the blaze. Elapsed time between the ignition of the fire and its extinguishment was seven minutes. The manufacturer of the system is J. H. Scharff, Inc., a subsidiary of Walter Kidde & Company, Belleville, N. J.

Opelika Buys Memco Ladder



The Memco Aerial Ladder Co., 1007 N. W. 36th Street, Oklahoma City, Okla., recently received a distinguished visitor in the person of Chief G. A. Mitchell, treasurer of the International Association of Fire Chiefs and head of the Opelika, Ala., Fire Department. Chief Mitchell is shown taking delivery of a Memco three-section, 65-foot, electrically operated ladder which the company had installed on a Ford F-600 chassis supplied by the Opelika department.

Improved Ferno Ambulance Cot



Ferno Manufacturing Company, Greenfield, Ohio, has announced an improved one-man ambulance cot. Richard Ferneau, president of the company, stated that Raymond Loewey Associates, internationally known industrial design consultants, have been retained to design and develop new ideas in the ambulance equipment field.

Du Mont Appointments

The appointment of William M. Cagney as eastern regional sales manager, Rondal L. Miller as southern regional sales manager and Howard Larsen as midwestern regional sales manager, is announced by Joseph A. Ricca, product manager, mobile communications department, Allen B. Du Mont Laboratories, Inc., 750 Bloomfield Avenue, Clifton, N. J.

Mr. Miller will be located at 3783 Van Ness Lane, Dallas, Tex., and Mr. Larsen at 4908 Lincoln Avenue, Chicago, Ill.

Motorola Promotions

Arthur L. Reese, vice president and general manager, Motorola Communications and Electronics, Inc., 4501 West Augusta Boulevard, Chicago 51, Ill., announces the appointment of Homer L. Marrs as vice president and operations manager in charge of nationwide sales engineering. Mr. Marrs was formerly midwestern sales manager.

H. L. Marrs H. A. Jones

Harold A. Jones, formerly staff director of sales, has been elected vice president and midwestern sales manager to succeed Mr. Marrs.

Safety First Advances Cholin

Roger Cholin has been elected vice president in charge of fire school training and national accounts of Safety First Products Corporation, Elmsford, N. Y., it was announced by Martin B. Fleming, president of the dry chemical fire extinguisher company.

Mr. Cholin who has been with the company for 13 years, will have charge of the fire training school at the company headquarters and will supervise all national accounts through distributors in this country.

Kupferle Foundry Co. Acquires Rights To Nonco Hydrants

Requests for Nonco fire hydrants and their repair parts, should now be directed to the John C. Kupferle Foundry Co., St. Louis, Mo. This company has recently purchased all rights to patterns and the production of Nonco hydrants, from the N. O. Nelson Co., St. Louis, Mo.

New Alfco Catalog

American LaFrance Corporation, Elmira, N. Y., has released its new catalog "Fire Department Supplies." The 84-page book contains a comprehensive listing of fire fighting equipment and accessories ranging from UL-approved fire extinguishers to hose, signals and lighting, safety equipment and fire apparatus. For a copy, send your name and title on your department letterhead to the above.

Greene County Installs GE Radio System

Greene County, N. Y., and the county sheriff's office at Catskill are pooling resources to establish a two-way radio system to provide mutual aid communications for 27 volunteer fire companies.

GE mobile units are installed on fire apparatus and messages are relayed through a central station at the sheriff's office. From this point it is possible to sound an alarm in each of the 27 fire stations equipped with GE monitor radios.

Relay towers, each 100 feet high, are located on Vly Mountain and High Hill to permit full coverage of the county area from the sheriff's office.

Du Mont Promotes Fockler

William G. Fockler has been named manager of technical products engineering at Allen B. Du Mont Laboratories, Inc., 750 Bloomfield Avenue, Clifton, N. J. He was formerly assistant engineering manager.

Fageol Safety Light

A new flasher safety light, said to be visible over two miles and to afford up to 90 days of continuous operation without battery replacement, is announced by R. D. Fageol Company, Kent, Ohio.

Known as Model HD-1-7, the unidirectional light features a 7-inch diameter plastic lens for maximum flash brilliance and a choice of five lens colors.

New Barnes Pump Literature

A selector chart designed to help fire fighters choose a Barnes portable or fixed emergency pumping unit best suited to their requirements is contained in a new catalog data sheet available from Barnes Manufacturing Co., Mansfield, Ohio.

The information sheet gives specifications on the company's complete line of pumps for broad fire fighting applications. For your copy, write the company for Data Sheet No. 348.

Large New York Fire Department Order to Mack

Mack Trucks, Inc., Plainfield, N. J., has announced receipt of a large-scale order totaling 33 pumpers and aerial ladders from the New York Fire Department.

Bert N. Nelson, manager of Mack's fire apparatus division, said total cost of the equipment will amount to approximately $725,000. This brings the total equipment sold in 1957 to New York to 77 vehicles costing about $1.5 million.

The order will include twelve 1,000-gpm pumpers, eight 750-gpm pumpers; eleven 85-foot and two 100-foot tractor-trailer aerials. All of the vehicles will be cab-forward design with air brakes, powered by Mack Thermodyne gasoline engines. The pumpers will carry portable deluge guns, 375-gallon booster tanks and booster reels. The aerials will have hydraulically operated steel ladders equipped with two ladder pipes for use as water towers.

short cuts and gadgets

Cruising Apparatus Control Halloween Bonfires

Last Halloween the Rochester, N. Y., Fire Department continued a practice established some years ago as a means of controlling the usual rash of leaf and bonfires which break out on that evening.

Several radio-equipped reserve pumpers were placed in service in the areas which have the greatest frequency of this type fire. Controlled by the fire alarm dispatcher, they were able to cruise their assigned district and answer many nuisance calls.

This practice permitted the retention in quarters of all first line companies which were free to answer normal fire calls. In some cases when alarms for leaf fires were transmitted over normal signal channels, the first arriving company would notify the dispatcher by radio and other units en route were promptly returned to quarters.

This procedure of utilizing reserve apparatus which has proved advantageous in Rochester might be borne in mind by other communities come next Halloween.

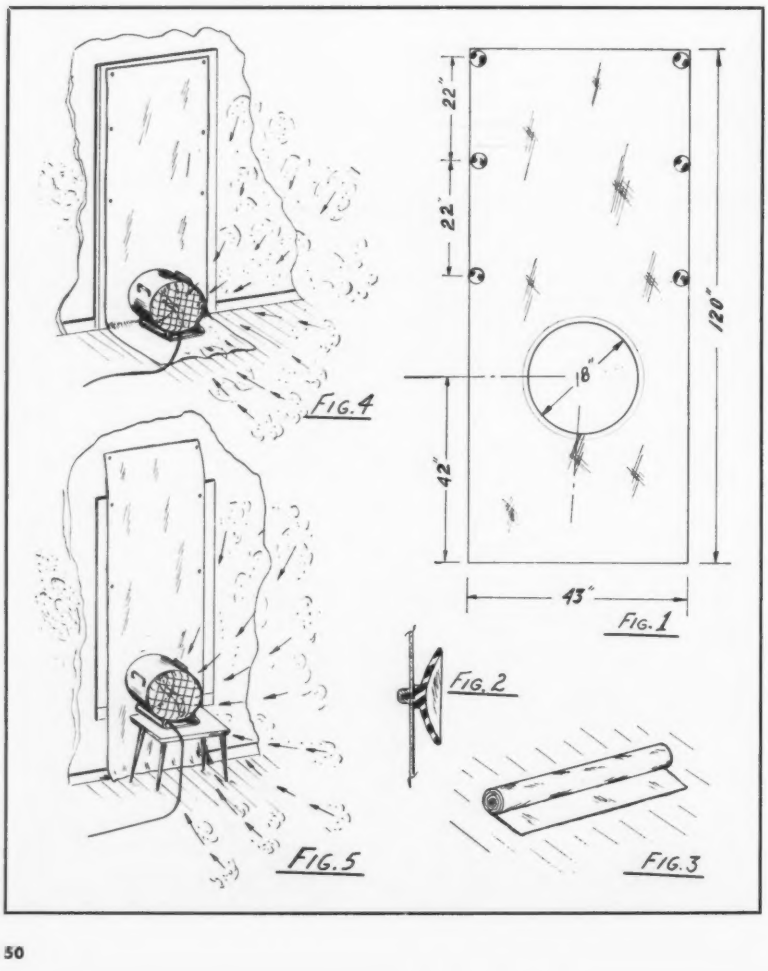
Perry O. Popp

Smoke Ejector Baffle Increases Efficiency

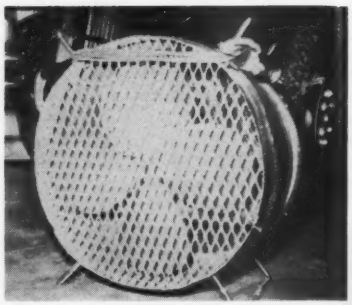
The Loudonville, Ohio, Fire Department uses a canvas baffle to increase the efficiency of its smoke ejector when ventilating a building. The simple aid is inexpensive and easy to make.

It consists of a piece of heavy canvas or leather measuring 120 inches by 43 inches (Fig. 1), and six heavy rubber suction cups (Fig. 2). The baffle can be rolled for easy storage and transportation (Fig. 3), and can be used in doorways (Fig. 4) or in windows (Fig. 5). The suction cups hold the baffle in place without the use of ropes or nails and cause no damage to the door or window facing.

—Charles Getz,
Ohio Fire Marshal's News Letter



Home Made Smoke Ejector



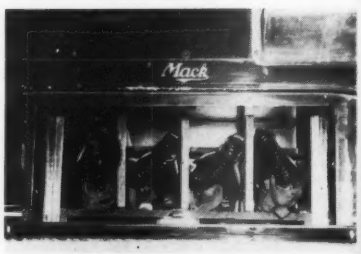
The North Tonawanda, N. Y., Fire Department uses two smoke ejectors which were made in the mechanic's shop.

Each consists of a 14-inch section of a salvaged oil drum with handles and legs made of four pieces of steel rod welded to the top and bottom.

Fans with 20-inch blades are mounted on ¼-hp motors which in turn are mounted in the interior of the drum sections. Heavy wire mesh over each end of the drums gives adequate safety protection.

Chief Raymond J. Kropp states that one of the ejectors is equipped with an explosion proof motor for use with dangerous gases.

Mask Compartment



The Rockville, Md., Fire Department carries its all-purpose masks in the storage compartment on the rear step of its pumper. Separators are built in and the individual masks are ready for instant use.

—University of Maryland
Fire Service Bulletin

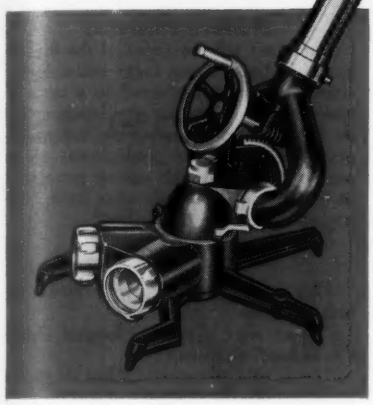
Yule Tree Sale Raises Cash

In the past, FIRE ENGINEERING has reported methods used by volunteer fire departments to raise funds for various projects. Some of these have included the sale of trees during the holiday season. The most recent account of this type of project comes from the Washington District Fire Department near Norfolk, Va.

To raise funds for needed emergency equipment the volunteers sold Christmas trees to the general public. The campaign began several weeks before Christmas and operated from dawn to 11:00 p.m. every day. Prices ranged from $1 to $3.50 for trees between 3 and 9 feet tall; nearly 1,000 were sold.

Specify AKRON

"AMERICA'S BEST FIRE EQUIPMENT"



TWO INLET MULTIVERSAL

Light weight — 55 lbs. Handwheel adjustment. Perfectly balanced. Relieves manpower for other duties. Low friction loss. Akron stream shapers for non-feathering stream. Can be used with FOG-HOG for complete versatility. Style #491.

"FOG-HOG" NOZZLE

DELUGE

With all-round indicator for preselection of stream. Tremendous gallonage and projection. Use on ladder pipes, deluge guns, deck pipes. All degrees of fog, straight stream or shut-off instantly available. Bind-free operation at all pressures. ROCKER LUG—available in 500, 1000, 2500.

"P.D.Q." NOZZLE

HOSE LINE

Adjustable through all angles of solid fog and straight stream. Akron quality ball shut-off. Guaranteed gallonage. Positive stream positioning indicators. Swiveling "ROCKER LUG" base — handle is always up. Corrugated no-slip grip. 1", 1½" and 2½" sizes.

"FORGEX" COUPLINGS

Drop-forged for strength. Light weight — perfect companion for light weight hose. "ROCKER LUG" — Higbee Indicators. Tapered hose bowl — stays on hose under all pressures. Unconditionally guaranteed to give complete satisfaction. Style #88

SIAMESE

Two and one-half inch FULL FLOW Ball-Valve Siamese. One 2½" female inlet . . . two 1½" male outlets. Solid red brass casting. Operating pressures to 500 lbs. The industry's best made and most widely used Siamese. Style #481.

UNIVERSAL THREAD ADAPTER

Instantaneous connection to all thread sizes. Your own thread on male end. Moveable bronze jaws provide adjustable female. Push handles together and watertight connection is made. Light weight — 7 lbs. No wrenches needed. Style #575.

SPANNER WRENCH HOLDER

Wrenches ready for immediate use. Complete with two No. 10 spanner wrenches. Wrenches always in place, one hand operation. Style #448.

AKRON BRASS

FIRE FIGHTING EQUIPMENT

AKRON BRASS MANUFACTURING CO., INC.
WOOSTER, OHIO

FALSE ALARMS

While crossing the college campus, a frosh met one of his prof's and said: "What's your guess about the game next Saturday, Professor. You don' think we'll do too bad do you?"

"Don't you mean 'badly'?" asked the prof'.

"What's the difference?" said the freshman, "You know what I mean."

"Well, an 'l-y' can make quite a difference," replied the professor. He pointed to a passing coed.

"For instance, it makes the difference whether you look at her sternly, or at her stern!"

New Rocket Terminology

Scientific breakthrough: What a fire fighter calls it when the gal of his choice finally kisses him good night.

Anything to please the little woman. The bride asked him so the bridegroom made his first trip to the store: "Gimme a fifth of milk," was his first order.

How It All Began

Kissing is now explained by scientists in terms of simple chemistry. A craving for salt started. The caveman discovered that he could cool off in summer by licking his neighbor's cheek. Then he discovered it was more fun if the neighbor was of the opposite sex. Then everybody forgot about salt!

First ex-convict: "The Governor and me is great buddies."

Second Convict: "Yeah?"

First ex-convict: "Yeah, he's my pardoner in crime."

A couple of suburban lady fire auxiliaries met the other day and one of them was overheard to say:

"I got bighearted this morning and gave a bum $20."

"Gee—really? What did your husband say?" asked the other.

"What would you expect him to say?" answered Aux' No. 1. "He said 'thanks.'"

"I said **polish, Bumble, not wax!**"

F. D. instructor to proby: "Your vocational aptitude test indicates that your best opportunities lie in a field where your father holds an influential position."

Ever hear what Lord Godiva said to Lady Godiva at the conclusion of her historic "bareback" ride? "Whereinell 'ave you been? Your 'orse came back three hours ago!"

Modern Efficiency

We won't tell the name of the fire department but it seems there was a deputy chief who was transferred to a new division. On reaching his new headquarters he found stacks of musty old documents accumulated by his predecessors so he sent a memo' through asking permission to burn them. The reply came back, "Approved, but make copies first!"

Two bums were weaving along the railroad track.

"These, hic . . are the longest shtain I ever saw," said one.

"Yeah, said the second, "but its theshe low handrails 'at get me!"

FIREPROOF: Being related to the Big Boss!

Christmas Post Mortem

"Look, dear, how picturesque! The Smiths are bringing in a Yule log."

"Yule log my eye! That's Smith!"

"Times sure have changed," remarked Kinkchaser, "Today it's the girls who don't feel grown up 'til they've had their first pair of long pants."

Gal: "You play beautifully. Why did you take up the piano?"

Pal: "My beer kept sliding off my violin."

Coupling claimed he had just had two drinks when he was picked up for going the wrong way on a one-way street. "Where'd 'ya think you're going!" demanded Mr. Bluecoat.

"I dunno for sure," answered Coupling. "But whatever it is, I must be late. Everybody's coming back from there a'ready!"

Vacationing Fireman: "Me and my wife came down here for the winter."

Floridian: "Well, you've come to the wrong place. There's no winter here."

Overheard at the fire college: "A lecture is something that makes you feel dumb at one end and numb at the other."

NEW!

WORLD'S FIRST OUTBOARD V-ENGINE

MEET THE SEA-HORSE V-50... THE JOHNSON THAT LAUNCHED THE V AGE IN OUTBOARDING!

It's a wonder under load . . . a 4-cylinder, 70.7 cubic inch, 50 hp "V" bomb! Inspired by the finest automotive V-engine design, it delivers blazing full thrust instantaneously!

What's more, the Sea-Horse V-50 brings "V" smoothness, silence and response to the working waterways. It's the most effortless, most efficient big motor ever built. And it's all new. From unit magneto and suction fuel pump to "rubber-floated" powerhead, spring-assisted tilt locks and premium long-life paint. If you want a rugged, all-purpose motor with a heart that's twice its displacement, this new "V" Sea-Horse is for you.

There's "V" value all through this year's Johnson line. From 3 to 50 hp, from $160 to $840, all eleven new Sea-Horses are models of dependability—worth more from take out to trade in. Why don't you go silent partners with a Sea-Horse. Your Johnson dealer's listed under "Outboard Motors" in the Yellow Pages. See him soon. Nearly two million dependable Sea-Horses prove Johnson knows best.

FREE 1958 Sea-Horse catalog! Write: Johnson Motors, 444 Pershing Road, Waukegan, Illinois. (Division of Outboard Marine Corporation. In Canada: manufactured by Johnson Motors, Peterborough, Ontario.)

NEW 4-CYLINDER SEA-HORSE V-50 — $740

- Whopping 70.7 cubic inch displacement—largest among popular outboards.
- Develops 50 hp at only 4000 rpm—has enormous capacity for load.
- New recirculating water cooling system—maintains ideal block temperature, lengthens engine life. New V-50 can run continuously in the coldest waters.
- New twin-barrel down draft single carburetor—only one high speed carburetor adjustment to make.

Prices f.o.b. factory, subject to change. OBC certified brake hp at 4000 rpm (18s and 35s at 4500).

First in dependability... pioneers of the "V" age engine

Johnson

There's nothing like the Pacemaker GRAPHIC®S BIG NEGATIVE

ACTUAL NEGATIVE SIZE IS 4″x 5″

The "Big Negative" is the big reason why the Pacemaker Graphic is best suited for fire work. Its jumbo 4″ x 5″ size permits critical enlargements of the entire negative area or sections thereof with a minimum of grain. The result is an amazing brilliance and clarity of detail not possible in smaller size film. No special care is required in processing, either, since sheet film has a tough, heavy film base that withstands rough handling. Sheet film can be processed individually, developed in a variety of ways, and is available in over 40 different black and white and color emulsions for the widest latitude in film selection.

In addition, the Pacemaker Graphic offers the widest range of versatility in photographic techniques, with three types of focusing, three types of viewfinding, three types of flash synchronization, and three types of shutter release.

You'll find the Pacemaker Graphic the ideal camera for use at the fire scene; in training; demonstration of equipment; fire prevention; suspected arson; and all other departmental activities.

GRAFLEX® *Prize-Winning Cameras*

For further information see your local Graflex Dealer or write Dept. FE-18 GRAFLEX, INC., ROCHESTER 3, N. Y.

A SUBSIDIARY OF GPC

Among the Buffs

By Paul C. Ditzel

SO YOU THINK lightning can't strike twice in the same spot. Members of the Boston Sparks Association have found that it can.

The once-in-a-million chance of a second alarm banging in during a club meeting occurred recently with the Sparks while they were watching Jim Bloomley's color slides. Midway through the viewing the telephone rang and Jim was told a second alarm had been struck in Malden.

"Normally Jim would have been at home that night and since the box was less than 10 minutes away he would have responded on the first alarm," reports John J. Campanella, executive secretary of the Sparks.

But Jim remained loyal to the club and neither he nor anybody else turned out. (Wait 'til Jack Robrecht reads that!) Less than 5 minutes later Jim's beautiful wife called again. Third alarm.

As Jim was getting the message over the phone his two assistants had taken down the screen and had the projector and slides all packed away, ready to move out. And move out they did, says Brer Campanella. Shortly after they left Mrs. B. called again. A fourth alarm had been pulled.

It's been said, and perhaps rightfully so, that few things upset the calm of a Bostonian. This must have been one of them. There is no further reference to what was burning in the Sparks' report. But wait!

One month later while the buffs were holding their next meeting, Joe Bailey was showing some movies on oil fires to the Sparks when a second alarm was struck in the North End.

"Nearly everyone left the clubroom and those who remained viewed a movie on the Russian Soldier," dutifully reports Secretary Campanella. The Russian Soldier! While a second alarm is in the making? Come now, John, Boston isn't that staid.

Speaking of fire fan attendance at blazes, The Central Alarmers, Inc., of Baltimore, Md., a club which services the fire and police departments of Baltimore County, turned out to a big one at the Bottle & Cap Tavern. The fire alarm for this blaze rang shortly after their monthly meeting had adjourned so attendance by members was exceptionally large. "This to our knowledge was the first fire where there were as many Central Alarmers present as firemen," says the club's newsletter.

I'd like to alert you again to the current issue of *See Magazine* which will be on the stands by the time this sees print, although the cover reads "March" issue. It contains a story of the Great Chicago Fire of 1871 as told through the eyes of Fire Marshal Robert Williams. The yarn was built around rare fire alarm records and Chicago Fire Department material and consequently should be of great interest to you buffs and fire historians.

The Chicago story is one I started to write when I was a police and Associated Press reporter in the Windy City. It will hit home to Patrick J. McDonald who, like his entire family of firemen in Chicago, is a member of the old leather-lunged school of blazebeaters. Every department could use an unlimited number of McDonalds—especially if they're all like Patty, who reports, "I'm still dragging spaghetti in the fire department at O'Hare Air Field."

"As well you know, my father, Captain Michael McDonald, joined the Chicago Department March 5, 1893. After putting 41 years in it, he then thought the job was not steady and took his pension. Brother Willie had 40 years in the department last October and still has two more to go. He will be made battalion chief the first of the year, we believe. He is now in the buggy in the Third Battalion. Brother John put 28 years in the department, but I think he got weak knees and took his pension."

To me, Patty typifies the Chicago Fire Department, one of the most glorious in the country, as it used to be.

Patty drew his paycheck before his retirement from the Chicago Police Department a few years ago to start a new career in his first love—the fire service. After many years a policeman, he turned his buffing hobby into a new life for him.

Some anonymous—but friendly—correspondent has kindly added my name to the mailing list for the Seattle, Wash., *Fire Fighter* magazine, published by Local 27 of the International Association of Fire Fighters. It is one of the best firemen's magazines I've seen. The December issue contained some good historical material.

The Phoenix Society of San Francisco received some well deserved publicity in the Bay area papers as they celebrated their 25th anniversary. Irving—hereinafter referred to as "Doc"—Levin's picture appeared in the newspaper clipping sent me and my daughter, Denise, hasn't been the same since. Guess who sent me the picture? Doc is the society's "Ra" which to us lesser mortals means he is the president of the Phoenix Society, as energetic a buff group as stalks the fire houses.

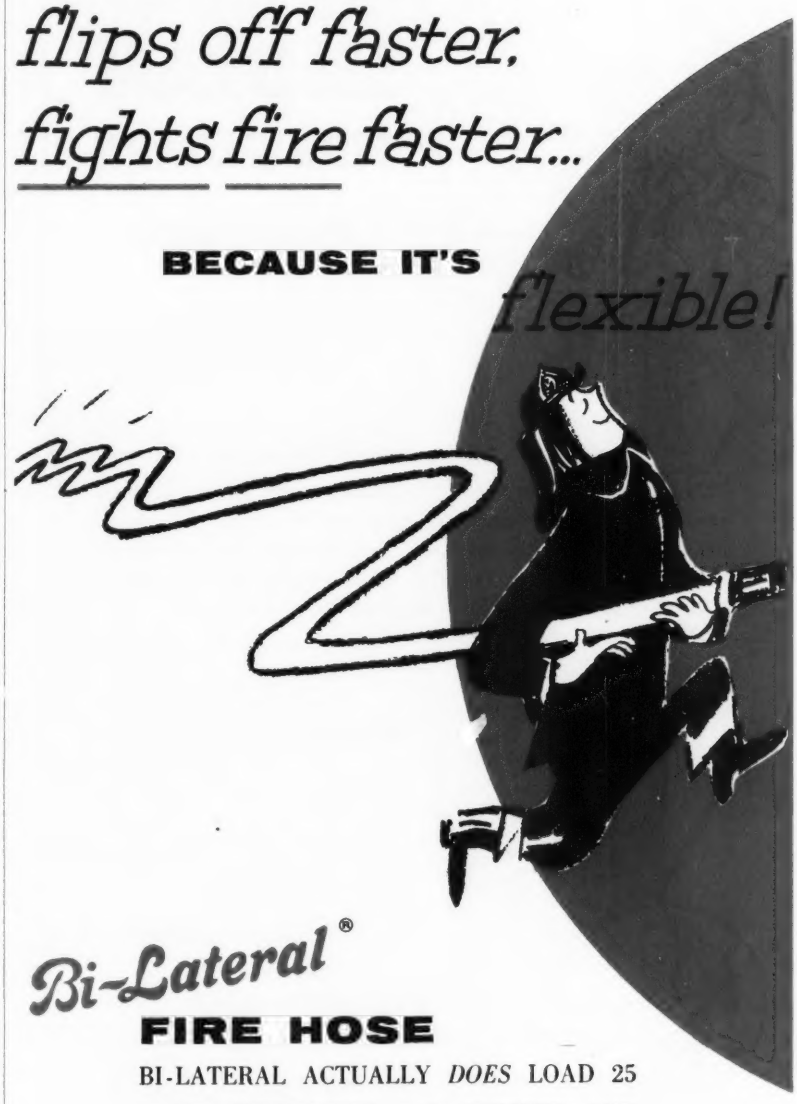
The Phoenix group was honored at a luncheon in the Whitcomb Hotel given by the American Red Cross whose members are connected with Phoenix. Each member of the club is a member of the Red Cross Disaster Service. Present were Fire Chief William Murray, Deputy Chief Carl Kruger, members of the board of fire commissioners and other dignitaries.

Also celebrating an anniversary recently was the Milwaukee Fire Bell Club, its tenth. Local newspaper coverage showed Fire Chief Edward Wischer with Club President Fred W. Poehlmann and Treasurer Eric Whitfield. This column would like to print a history of the Milwaukee group if Brer Poehlmann would be so kind as to forward us one.

Among our New York buffs (who had a busy time of it in October with 19 extra alarms) Ben D. Branch, a member of the Fire Bell Club and veteran rail-

folds flatter, flips off faster, fights fire faster...

BECAUSE IT'S *flexible!*



Bi-Lateral®

FIRE HOSE

BI-LATERAL ACTUALLY *DOES* LOAD 25 to 40% *MORE* HOSE on the PUMPER—AND IT ACTUALLY *IS* EASIER TO HANDLE... WHICH REALLY *DOES* MEAN YOU *COVER MORE FIRE FASTER!*

Send for Bi-Lateral's free hose record cards—used by hundreds of fire departments throughout the country . . . they'll *prove* to you that Bi-Lateral lasts longer . . . costs less in the long run.

Bi-Lateral®

FIRE HOSE COMPANY

20 N. Wacker Drive • Chicago 6, Illinois

"You Mean You had **INDIAN FIRE PUMPS** Way Back Then Grandpa?"

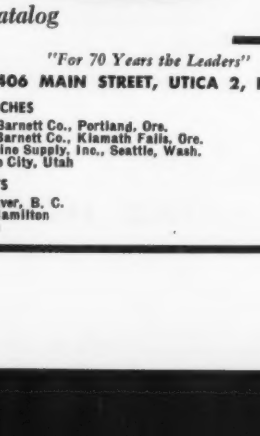
"Yes sirree, Buster, our department had them in 1925 and they're the dangdest best outfits made for small fires. Wouldn't be without 'em. Guess they're better than ever today. I see the boys at the station house still have a bunch of INDIANS on hand."

No. 90 **INDIAN**
Sliding Pump Type

Old timers know and swear by INDIAN FIRE PUMPS—the pioneer back-pack extinguishers that do such a wonderful job with just clear water. 30 years of research and design experience stands behind every pump.

Both types of INDIAN FIRE PUMPS are approved by UNDERWRITERS' LABORATORIES, INC.

No. 80 **INDIAN**
Lever Type Pump and Handle



"Nothing Like an **INDIAN**"

"We have 6 INDIAN FIRE PUMPS and have used them 8 years. They are still just like new and we like them very much. We use them for everything including grass, house, barn, roof, rubbish and many other fires. There is nothing else like them."

Earl L. Koch, Asst. Chief
Ann Arbor, Mich. Fire Dept.

Write for New Catalog

D. B. SMITH & CO. *"For 70 Years the Leaders"*
406 MAIN STREET, UTICA 2, N. Y.

PACIFIC COAST BRANCHES

Hercules Equipment & Rubber Co., Inc., San Francisco 7, Cal.
Halprin Supply Co., Los Angeles 15, Cal.
Fred E. Barnett Co., Portland, Ore.
Fred E. Barnett Co., Klamath Falls, Ore.
Mill & Mine Supply, Inc., Seattle, Wash.
L. M. Curtis & Sons, Salt Lake City, Utah

CANADIAN AGENTS

Fleck Bros. Limited, Vancouver, B. C.
C. E. Hickey & Sons, Ltd., Hamilton
Bison Hardware Co., Toronto

road executive, had been appointed special representative in charge of transportation arrangements at Hon. Deputy Chief Frank W. Kridel's new Manhattan Hotel in New York City.

New officers of the 355 Club of Brooklyn include: Harold E. Graham, reelected president; John Gallagher, vice president; and Joseph Madden. Other new 355 officers are: William T. Walker, John Skelly, Albert Purino, and Bernard Foley.

Also among the newly elected—in this case the Association of Auxiliary Firemen of Manhattan, Inc.: Rocco DeLorenzo, president; Edward Flanagan, vice president; Bernard Grandjany, secretary and treasurer and Barry Lukey, sergeant-at-arms.

It's time to decorate the Christmas tree around these parts, what with column writing time several weeks in advance of publication. Thanks to all of you who sent Christmas cards—they were really unique this year. Please keep the news and historical records flowing to me at 4234 Don Diablo Dr., Los Angeles 8, Calif. □□

Questions and Answers

Chains On Tiller Wheels

To The Editor:

In August of this year we placed in service the first aerial with tiller to be used in this county. With the coming of winter we have acquired chains for the drive wheels but have wondered about chains for the tiller wheels. We would appreciate any information as to type of chains to obtain, if any.

TC

Answer: We have no report of any fire department which uses chains on the rear wheels of ladder trucks which are tiller operated. Inquiry among a number of metropolitan fire departments indicates a widespread belief that to employ chains on the tiller wheels would be a detriment rather than an advantage.

Cavitation In Fire Pumps

To The Editor:

Could you give me a word picture of the action which takes place when cavitation occurs in a centrifugal fire pump?

A. R.

Answer: Webster defines cavitation as *the formation of a vacuum around a propeller or fan revolving at a speed above a critical value. It causes a loss of efficiency.*

In fire pumps, as the vapor pressure of the water is reached the water begins to vaporize or *boil* and the pump passages become partly occupied by vapor pockets. The formation of these pockets is called *cavitation.* It generally occurs at points of low pressure and high velocity.

When the local pressure drops to the

vapor limit, the water vaporizes, forming a cavity filled with vapor. At the next instant the pressure will rise above the vapor limit and the vapor suddenly condenses and returns to a liquid, producing a collapse of the cavity and an implosion. The implosion produces the familiar crackling sound associated with pump cavitation.

Water hammer results from the implosion and is capable of producing intensities on the pump surfaces of the same order as the tensile strength of the metal. Under continual repetition the metal may fail locally resulting in the condition known as *pitting*.

In addition mechanical vibration may occur as well as loss of efficiency; the driving engine speeds up since the smooth flow of water is not present to provide the normal load.

The maximum permissible suction lift and the volume of discharge are limited by the factor of cavitation in the impeller eye. □□

What's Burning?

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from November 22nd to December 19th.

Childersburg, Ala. — Childersburg Jr. High School destroyed.

Alma, Ark.—Agriculture training building at Alma High School, destroyed.

Fort Smith, Ark.—National Glass Manufacturing Co. damaged.

Osceola, Ark.—Hut Cafe, W. Reidy's drug store, barber shop, billiard parlor and vacant office, damaged.

El Centro, Calif.—Dessert Seed Co. warehouse destroyed.

Los Angeles, Calif.—Auto shop housing twelve sports cars, destroyed.

Los Angeles, Calif.—Bicknell building occupied by clothing manufacturing firm, Western Shoe Market and Salvation Army Thrift Shop, damaged.

Malibu, Calif.—Ranch-style dwelling of movie producer Sam Zimbalist, destroyed.

Oakland, Calif.—Electronics computer at Naval Supply Center destroyed.

Ontario, Calif.—General Electric Co. instrument shop at Ontario Airport destroyed.

Montrose, Colo.—Seagler Motor Co. destroyed. Tank of gasoline dropped on electric light bulb.

Bridgeport, Conn.—Spactor Mid States Truck Terminal damaged.

North Haven, Conn.—Used tire warehouse of North Haven Tire Salvage Co. damaged.

Georgetown, Del.—Mansion of Lawrence C. Elliott heavily damaged. Exploding space heater.

Ormond Beach, Fla.—Combination bar and restaurant, men's shop, gift shop, women's shop and post office annex, destroyed.

Milner, Ga.—Milner Grammar School destroyed.

Moultrie, Ga.—Winn-Dixie Super Market heavily damaged. Faulty wiring.

Villa Rica, Ga.—Berry Drug Store, Empire 5 & 10 cent store, A & B Dress Shop and Reeves Jewelry Shop, destroyed. Faulty gas heater.

Chicago, Ill.—Gulf, Mobile & Ohio Railroad roundhouse and Pacific Mutual Door Co. warehouse, destroyed.

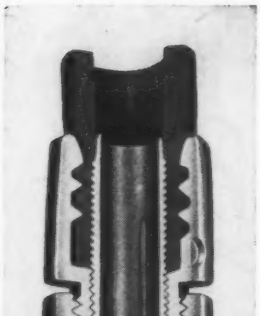
Filson, Ill.—Building housing general store of Paul Mallady, post office and apartment, destroyed.

German Valley, Ill.—Louis Miller Implement Co. destroyed. Truck being welded burst into flames.

Havana, Ill.—Building housing Wehner Furni-

NOW... BLACKINTON BADGES are packaged like the Finest Gems
by Blackinton
by Blackinton
BLACKINTON
V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS.

SPECIFY **BAR-WAY,**



THE ACCEPTED STANDARD FOR HIGH PRESSURE HOSE COUPLINGS . . .

1. **RELIABLE**—Bar-Way builds to quality standards. We make the best possible.
2. **NO-CHOKE**—Coupling resistance to flow within plus or minus 2% of equivalent hose length.
3. **HIGH-SLIP**—Non-snagging design so that all models slip over ground obstructions.
4. **STANDARDIZED**—Interchangeable parts, 100% inspected; made on automatic equipment.
5. **STOCKED**—Shipments made from stock on all standard types from Stamford.

ALWAYS SPECIFY BARWAY HOSE COUPLINGS

1. Give us the hose INSIDE DIAMETER AND OUTSIDE DIAMETER. Or: Specify the BAR-WAY model number.
2. Name your THREAD; while there are many names, the standards are all listed in BAR-WAY literature. Specials require shop working dimensions.
3. What FINISH do you need? Plain; Polished; Chromed; (And, we do some work in aluminum)

BAR-WAY® **BAR-WAY** MFG. CO., STAMFORD, CONN.

Write for Bulletin 6600-F

WEIGHS ONLY 110 LBS.

MORE **EFFECTIVE** FIRE PROTECTION

CITY • RURAL • FOREST

MODEL 6600 PUMPER—Instantly Self-Priming—No waiting when seconds count

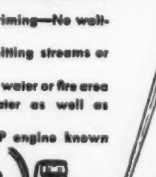
HIGH PRESSURE—Use one or two hard-hitting streams or fire-blanketing fog-spray

LIGHT WEIGHT—Easily carried to source of water or fire area

NEOPRENE IMPELLERS—Pump dirty water as well as clean water—assure long life

POWER—Efficient 4-cycle, air-cooled 8 HP engine known and serviced world-wide

BY-PASS VALVE, SPRING LOADED GREASE CUP, NO LOSS OF PRIME, PLUS MANY OTHER FEATURES



UP TO 40 GPM AT 150 PSI

MARINE PRODUCTS COMPANY

515 LYCASTE AVENUE • DETROIT 14, MICHIGAN

ture Store and Koke's Appliance Store, damaged.

Cedar Rapids, Iowa—Garage and maintenance plant of Witwer Grocery Co. destroyed. Gasoline fumes explosion.

Creston, Iowa—Building housing Western Auto Store destroyed; adjoining building housing Evans Bros. Clothiers, damaged.

Epworth, Iowa—Building housing general store, telephone exchange and apartments, destroyed.

Ottumwa, Iowa—Springer Oil Co. building destroyed.

Girard, Kans.—Cozy Theatre, beauty shop, insurance office, restaurant, bakery and apartments destroyed; M & M Ford Motor Agency damaged.

Wichita, Kans.—Cardinal Furniture Co.'s warehouse destroyed.

Bardstown, Ky.—Nelson County Infirmary and adjoining meat house and wash house, destroyed.

Henderson, Ky.—Tobacco warehouse owned by R. J. Reynolds Tobacco Co. and Brown and Williamson Tobacco Corp., destroyed.

Whitley City, Ky.—Hickman Garage destroyed.

Neraux, La.—Building housing Progressive Rental Co., Inc., Stylite, Inc., and C. E. Collins Furniture Co., destroyed; adjacent Blanchard's dwelling damaged. Kerosene heater exploded.

New Orleans, La.—Seven gasoline storage tanks at Ingram Oil & Refining Co. destroyed.

New Orleans, La.—Five dwellings on Melpomene Street destroyed.

Baltimore, Md.—Oyster Bar Restaurant destroyed; adjoining Maryland Office Supply Co. damaged.

Elkton, Md.—Thiokol Chemical Corp. damaged. Explosion.

Boston, Mass.—Lewis Wharf and Proven Paper Manufacturing Co. damaged.

Holliston, Mass.—Foundry & Machine Co. destroyed.

Shelburne, Mass.—Main barns of Sheldegrew farm destroyed.

Detroit, Mich.—Acme Auto Battery Co., Acme Mills Co. and Midwest Textile Co., damaged.

Flint, Mich.—Skaff Rug & Furniture Co. Colonial Shop, damaged.

Highland Park, Mich.—Royal Market, Little Skipper Shop and apartments above the stores, damaged.

Menominee, Mich.—Log Lodge destroyed.

Trenton, Mich.—Michigan Foundation Co. warehouse and storage shed destroyed.

Wyandotte, Mich.—Building housing the *Wyandotte News-Herald*, optometrist, jewelers, clothing stores, doctor's, lawyer and credit bureau offices and barber shop, destroyed.

Bayesville, Miss.—Sterling's 5 & 10 Cent Store, Piggly Wiggly Store, Stubbs Department Store and W. C. Anderson store, damaged.

Collins, Miss.—Salen Consolidated School destroyed. Defective wiring.

Kansas City, Mo.—Eight-O-Four Grand Building and adjoining structure housing printing firm, restaurant, typewriter company and various businesses, destroyed. Explosion.

Marshall, Mo.—Two business buildings housing *Marshall Daily Democrat-News*, Doyle Printing Co. and real estate agency, destroyed.

Overland, Mo.—Meadowbrook Country Clubhouse destroyed.

St. Louis, Mo.—Norris Grain Corp. badly damaged. Overheated corn.

Steelville, Mo.—Presbyterian Church destroyed.

Havre, Mont.—Van Orsdel Methodist Church destroyed.

Blairstown, N. J.—Farr Manufacturing Co. plant, division of Payne Cutlery Corp., damaged.

Forked River, N. J.—One hundred-year-old Greyhound Inn destroyed. Fireplace sparks.

Keansburg, N. J.—Hermetics Co., electronic parts firm, and adjoining dwelling damaged.

Palmyra, N. J.—Palmyra High School destroyed.

Paterson, N. J.—Warren Lloyd Co. furniture warehouse damaged.

Sussex, N. J.—Factory building housing Delgro Co., cork products manufacturers, and Triangle Plastic Co., destroyed.

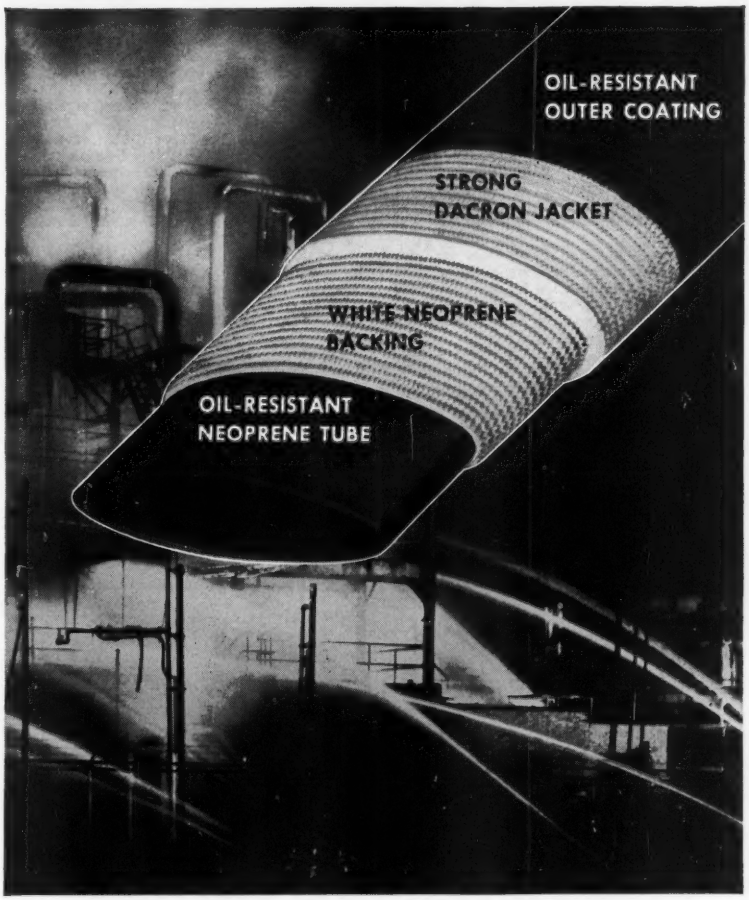
Trenton, N. J.—Workingman's Store, adjoining Kraft Furniture Store and Victor's Clothing Store, damaged.

Westfield, N. J.—Westfield Lumber & Millwork Co. damaged.

Albuquerque, N. Mex.—Barber's Super Market damaged.

Albion, N. Y.—Six barns on William Carr farm destroyed.

Baldwinsville, N. Y.—Combination business-apartment building damaged.
Big Flats, N. Y.—Grange League Federation building heavily damaged. Chemical explosion.
Conifer, N. Y.—Furniture manufacturing plant of Heywood-Wakefield Co. damaged. Transfer belt bolt flew off striking electrical fixture.
Elmira, N. Y. — Four-story warehouse filled with greeting cards and machinery destroyed.
Saratoga Springs, N. Y.—Saratoga Industries plant, division of Espey Manufacturing Co. making transformer filters and radio coils, damaged.
South Schodack, N. Y.—Barn on George Mesick's farm destroyed.
Utica, N. Y.—Two-story building housing Bomomo Wholesale Grocery Co. and a freight terminal damaged.
Vestal, N. Y.—Forty units of Colonial Motel destroyed. Defective gas fired boiler.
Fairmont, N. C.—W. C. Atchley's print shop, A. C. Bracey's barber shop, law offices of Wayland Floyd and Floyd Dry Goods Store, damaged.
Fayetteville, N. C.—Corder-Vossler Tire Recapping Co. destroyed.
Fayetteville, N. C.—Warehouse at Golden Belt Orchard destroyed. Mysterious explosion.
Wadesboro, N. C.—Seed mill of Southern Cotton Co. destroyed. Arson suspected.
Williamstown, N. C.—Parmele Packing Co. destroyed.
Akron, Ohio—Stone's Grill restaurant and tavern destroyed; adjacent apartment dwelling damaged.
Canton, Ohio—Fulk-Bayer, Inc., garage and showroom damaged. Possibly arson.
Cincinnati, Ohio—Chase Industrial Refrigeration Equipment and Engineering Co. damaged.
Cleveland, Ohio—Cleveland Public Library damaged.
Cleveland, Ohio—Lee Edwards Furniture Co. warehouse damaged.
Columbus, Ohio—Chemistry building at Ohio State University damaged.
Dayton, Ohio—Beerman Department Store damaged.
Greenville, Ohio—Martin Street plant of Hobart Manufacturing Co., Standard Auto Parts Co., beer distributing firm warehouse, dwelling of John Brumbaugh and apartment dwelling, destroyed.
Mansfield, Ohio—Fairway Club destroyed.
Martins Ferry, Ohio—Porter Glass Co. glass cutting plant and adjacent dwelling destroyed. Explosion caused by gas stove being knocked over.
New Riegel, Ohio—New Riegel Feed Mill and elevator damaged.
Van Wirt, Ohio — Combination fruit-grocery market of H. E. Cordell destroyed.
West Portsmouth, Ohio—Portsmouth Home Supply Co. destroyed. Faulty floor furnace.
May, Okla.—Baptist Church destroyed.
Oklahoma City, Okla.—Stockyards destroyed. Possible arson.
Oklahoma City, Okla.—Walter Williams Candy Co. warehouse badly damaged.
Oklahoma City, Okla.—Building housing Spivey Furniture Store and hotel badly damaged. Tenant smoking in bed.
Gervais, Ore.—Carles linseed warehouse destroyed. Arson reported.
Portland, Ore.—Custom Auto Supply Co. destroyed. Arson reported.
Springfield, Ore.—Oakway Super Market destroyed.
Harrisburg, Pa. — Fabrication department of flange mill of Phoenix Iron & Steel Co. destroyed. Explosion.
Haverford Township, Pa. — Blessed Raphaels Mary Convent badly damaged.
Monaca, Pa.—Kobuta Chemical Plant, division of Koppers Co., damaged. High pressure line ruptured.
Philadelphia, Pa.—Pepco Feed Co. destroyed.
Pittsburgh, Pa.—Eight tenement dwellings destroyed. Defective wiring.
Republic, Pa.—Grade school damaged.
Scranton, Pa.—Building housing Preno's Restaurant destroyed.
Trainer, Pa.—Stauffer Chemical Co. plant damaged. Explosion.
Willow Grove, Pa.—Eskin Hardware Store destroyed. Defective wiring.
Jamestown, R. I.—Wharton Shipyard damaged.
Providence, R. I.—Almost completed dwelling of Merrill Hassenfeld damaged.
Columbia, S. C.—Capitol Theatre destroyed.



Strong, light, flexible Petrochem Fire Hose RESISTS CHEMICALS AND OIL

QUAKER PETROCHEM is the first fire hose made *especially* for the chemical and petroleum industries. Rugged and reliable, it's engineered to take the worst abuses these industries have to offer.

DURABLE • PETROCHEM hose stands up to abrasion and weather, because it's sheathed in a tough, flexible jacket of DuPont "Dacron", impregnated with oil-resistant neoprene.

STRONG • Functions safely under high pressure (up to 500 psi) and excessive heat (up to 300° F).

CHEMICAL- AND OIL-RESISTANT PETROCHEM defies deterioration, both inside and out. Good resistance to acids, alkalies, and oxidants.

FLEXIBLE • Takes tight twists or knots without injury.

EASILY COILED • Saves storage space and time. PETROCHEM can be kept coiled or folded wherever needed.

ALL-PURPOSE PETROCHEM hose can be used in virtually *every* industry where fire-safety counts. For details, ask your Quaker industrial distributor, who offers you fast service and delivery—and the answers to hose and belting problems you may not even know you have. For his name, write *Quaker Rubber Division, H. K. Porter Company, Inc.; Philadelphia 24, Pa., or Pittsburg, California.*

H. K. PORTER COMPANY, INC.
QUAKER RUBBER DIVISION

Shelton, S. C.—Shivar Springs, Inc., bottling plant, destroyed.
Sumter, S. C.—Johnson Annex school building destroyed.
Jackson, Tenn.—Tisals Transfer & Storage Co. destroyed.
Lawrenceburg, Tenn.—Lawrence County Stockyards destroyed.
McMinnville, Tenn.—Myers & Oliver Furniture Co. and J. C. Penney Co. destroyed; Center Recreation Hall damaged.
Parsons, Tenn.—Parsons Methodist Church sanctuary and classrooms destroyed. Overheated furnace.
Pulaski, Tenn.—Richland Feed Mills and two buildings destroyed. Exploding kerosene stove.
Ripley, Tenn.—Dailey's Clothing Store, Parson's Clothing Store and Willis Barber Shop destroyed; Lyle Durham Clothing Store and Cheek Drug Co. damaged. Natural gas explosion.
Abilene, Tex.—Behrens Chapel at Hardin-Simmons University, destroyed. Flash fire.
Brashear, Tex.—Coop Gin and nearby fuel tank damaged.
Greenville, Tex.—Beckham Hotel housing insurance office, men's shop, cafeteria and news stand, damaged. Gas explosion.
Houston, Tex.—Halls of Exhibits at Shamrock Hilton Hotel damaged.
LaMesa, Tex.—Furr Super Market damaged.
Princess Anne, Va.—Building housing Johnnie's Drive-In Restaurant and apartment destroyed.
Anacortes, Wash.—Far West Fisheries cannery destroyed. Explosion.
Burton, Wash.—Larsen's Market Center destroyed.
Clarkston, Wash. — Clarkston Country Club destroyed.
Colville, Wash.—Colville Public Library damaged. Faulty furnace.
Ellensburg, Wash.—K. L. Hay Farm destroyed.
Moses Lake, Wash.—Moses Lake Mercantile Store destroyed.
Olympia, Wash. — East Olympia Community Church destroyed.
Charleston, W. Va.—Dwelling of Attorney Sidney E. Goad dtstroyed.
Charleston, W. Va.—Buildings housing Shaffer Oil Co., Capitol Paper Co. and Hopkins Electric Co., destroyed.
Girouxville, Alta. — Catholic school destroyed. Faulty circuit.
Cooksville, Ont.—Wood finishing plant owned by Nu Grain Co. of Canada Ltd. destroyed.
Elliott Lake, Ont.—Stanleigh Uranium Mine damaged. Spark from welder's torch.
Fort William, Ont.—Two hangars, control tower and eleven planes destroyed; administration building damaged at Lakehead Airport.
North Bay, Ont.—Arcadian Tea Room, Saya's Drug Store, Confederation Life and London Life Insurance offices, law offices of Richard Donnelley, Dominion Steel Co. offices and Public and Separate School Inspectors' offices destroyed; offices of Gordon Lee, optometrist and Lawyer John Parquette, damaged.
Tillsonburg, Ont. — Two garages destroyed. Spark from a cutting torch.
Toronto, Ont.—Wesley United Church badly damaged.
Toronto, Ont.—George Rathbone Lumber Co. heavily damaged; several dwellings slightly damaged.
Windsor, Ont.—Cunokarka Co., auto lighter plant, damaged.
Hull, Que.—South Hull Elementary School damaged.
Montreal, Que.—St. Lawrence boulevard shed and building housing hardware store, and electric shop, considerably damaged.
Montreal, Que.—Temple Emanu-el Synagogue heavily damaged.
Montreal, Que.—Mount Royal Peoples Market and building under construction damaged. Heating device exploded.
Montreal, Que.—Historic Windsor Hotel badly damaged.
St. Hilaire, Que.—Manor house, under construction, destroyed. □□

H & H *FIRE APPARATUS*

WE ARE **SPECIALISTS**
IN **WATER CARRYING**
FIRE APPARATUS

Because we have had a successful experience in building tank trucks, an increasing number of fire departments are coming to us for WATER CARRYING FIRE APPARATUS. There is a growing tendency toward carrying water to the fire—having hundreds of gallons of it instantly available. We can offer our experience to any fire department planning a modern WATER CARRYING PUMPER. Why not take advantage of our experience?

HERE'S A TYPICAL UNIT—

carrying 2200 gallons of water—2 electric reels with 200 feet of one inch hose—500 GPM front mount pump—600 feet of 2½ in open top shroud—two 4½ x 10' suction hose in closed compartments. Similar jobs carry up to 4000 gallons and essential fire equipment. We also cater to individual design of discriminating companies.

H & H FIRE APPARATUS CORPORATION
725 TONNELE AVE.
JERSEY CITY, N. J.

F. D. I. C. Program Announced

Advance information on the tentative program for the 30th Annual Fire Department Instructors Conference, scheduled for Memphis, February 18-21, has been released to FIRE ENGINEERING by Chairman Dick Vernor.

The keynote address will be delivered by Chief R. C. Malmquist, vice president of the International Association of Fire Chiefs. Other outstanding figures in fire prevention and protection who may address the luncheon groups include Percy Bugbee, NFPA; Governor Caleb Boggs of Delaware and Chief William Miller of Los Angeles.

Among the many topics to be covered are: Aptitude tests for fire fighters; evaluating fire losses; the psychology of panic; small town fire departments; combustible metal fires; first aid; testing ground ladders; telephone emergency reporting systems; juvenile fire safety programs; industrial fire protection subjects; military crash fires; and automatic sprinkler demonstrations.

In addition, there will be the usual number of high level panel discussions, one of which will see leading fire commissioners tackling the subject "Areas of Responsibility." Also there will be hot question box sessions and short, but dramatic out-of-door demonstrations.

The Memphis Fire Department directed by Fire Commissioner Claude Armour and Fire Chief John Klinck, and their experienced staff of committeemen, are already primed and ready for the conference. A record registration is anticipated.

FIRE COLLEGES

California Fire Training Officers' Workshop—May 19-23, 1958, Fresno, Cal. **California Arson and Fire Investigation Seminar**—June 16-20, 1958, University of California, Berkeley, Cal. For information, contact Thomas S. Ward, Supervisor of Fire Training, State Department of Education, 721 Capitol Avenue, Sacramento, Cal.

Fire Department Instructors Conference—Feb. 18-21, Memphis, Tenn. Hotel reservations should be addressed to Hotel Reservation Desk, Fire Department Headquarters, 65 South Front Street, Memphis 3, Tenn.

Florida State Fire College. Jan. 20-24—Fire Service Training Improvement Conference. March 3-7—**Units 101,** Tools, Forcible Entry, Breathing Apparatus; **107,** Arson Detection; **201,** Instructor Training. March 10-14—**Units 102,** Hose and Ladders; **106,** Fire Inspection; **202,** Company Officer Training. March 17-21—**Units 103,** Rescue, Ventilation, Salvage and Overhaul; **105,** Fire Apparatus and Pumps; **204, Fire Fighting Tactics.** March 24-28—**Units 104,** Fire Streams; **206,** Fire Prevention and Protection; **208,** Fire Department Administration. May 19-23—**Liquefied Petroleum Gas;** June 9-13 and June 16-20—**Fire Pump Maintenance;** Aug. 4-8—**Seminar in Arson Investigation and Detection.** Sept. 8-12—**Units 101,** Tools, Forcible Entry, Breathing Apparatus; **107,** Arson Detection; **201,** Instructor Training. Sept. 15-19—**Units 102,** Hose and Ladders; **106,** Fire Inspection; **202,** Company Officer Training. Sept. 22-26—**Units 103,** Rescue, Ventilation, Salvage and Overhaul; **105,** Fire Apparatus and Pumps; **204,** Fire Fighting Tactics. Sept. 29-Oct. 3—**Units 104,** Fire Streams; **206,** Fire Prevention and Protection; **208,** Fire Department Administration. For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Maryland Short Course for Fire Inspectors—April 8-11, University of Maryland, College Park, Md. For information contact Robert C. Byrus, Director, Fire Service Extension, Fire Service Building, University of Maryland, College Park, Md.

Morris County, N. J., Fire School—Jan. 7, Madison Fire Headquarters, Madison; Feb. 4, Excelsior Fire Company, Montville. For information, contact Robert H. Wright, Publicity Chairman, Long Hill Lane, Chatham, N. J.

Purdue Arson Investigators Seminar—Apr. 28-May 2, Purdue University, Lafayette, Ind. For information, contact Professor Shelby Gallien, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

Purdue University Fire Administration Courses. Jan. 6-10—**Fire Instructors Training Course;** Feb. 6-7—**Fire Administrators Seminar;** Mar. 24-29—**Basic Fire School;** June 4-6—**Industrial Fire Control Seminar.** For information, regarding these courses, address Professor Shelby Gallien, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

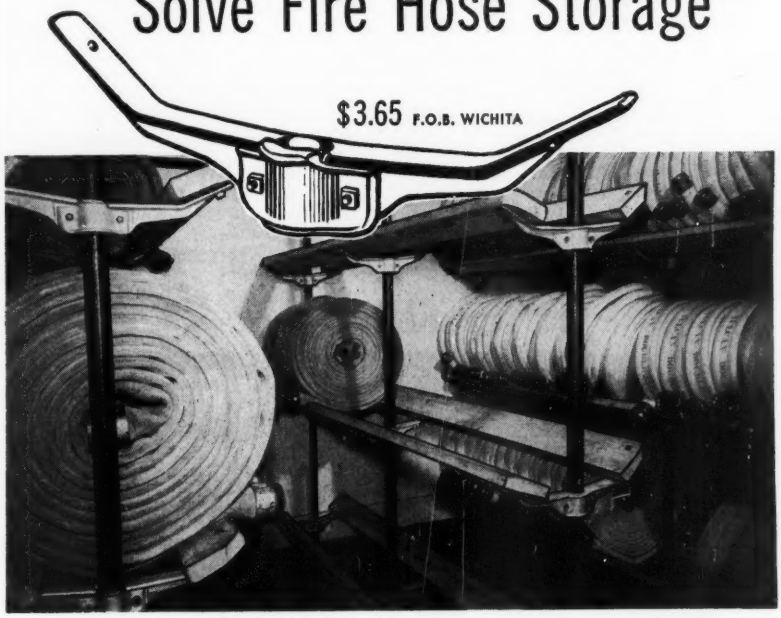
Virginia Arson Seminar—January 18, Thomas Jefferson Junior High School, 816 South Walter Reed Drive, Arlington, Va. For information, contact the chairman, Leslie L. Shelton, Arlington County Fire Marshal, Arlington, Va., or the seminar director, L. E. Shingledecker, Supervisor of Fire Safety, Nationwide Insurance, 246 North High Street, Columbus 16, Ohio. □□

Fire Station Burns

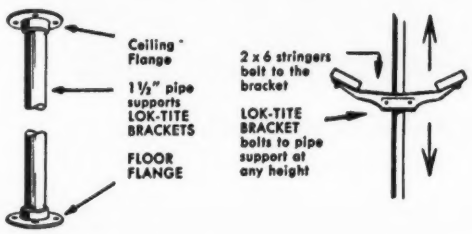
Firemen of East Dixfield, Me., are without a fire station—and fire truck. Their one-story frame fire house, and apparatus, were reduced to rubble and ashes, Dec. 11 by a fire of unexplained origin.

BRACKETS

Solve Fire Hose Storage



Do it yourself . . with LOK-TITE


Ceiling Flange
1½" pipe supports LOK-TITE BRACKETS
FLOOR FLANGE
2 x 6 stringers bolt to the bracket
LOK-TITE BRACKET bolts to pipe support at any height

Lok-Tite Brackets for storage racks provide correct ventilation, easy inspection for serial numbers, dates, and encourages good housekeeping practices. Make the most of your space by building sturdy low-cost storage racks with Lok-Tite Brackets. It's a perfect "do-it-yourself" project.

FIRE DEPARTMENTS USING LOK-TITE BRACKETS

Sacramento, California
Cape Elizabeth, Maine
Miami, Florida
Flint, Michigan
Philadelphia, Pennsylvania
Albany, New York
Corpus Christi, Texas
Louisville, Kentucky
Santa Fe, New Mexico
Portland, Oregon
Dayton, Ohio
Montreal, Quebec, Canada

Volunteer Departments:
Glen Avon Heights
Riverside, California
Beach Haven
Ocean City, New Jersey
Juneau, Alaska

W-B MANUFACTURING COMPANY
157 NORTH WACO STREET • WICHITA, KANSAS

MAIL COUPON TODAY

W. B. MANUFACTURING CO.
157 North Waco • Wichita, Kansas
Please send me ____ brackets @ $3.65.
NAME_____
STREET_____
CITY_____ STATE_____

- Simple to install
- Easy to adjust
- Big load support

Build your own fire truck for a few hundred dollars

The time has come when rural fire protection should leave the "Fancy Dan" class so that every small community can do a real down-to-earth job of extinguishing fires rapidly, simply and inexpensively.

The nickel plate, red paint, gadgets and polish are good if you can afford them. But all you need for sound, economical fire protection is an Oberdorfer All Bronze Pump hooked up to the transmission of a dependable truck that carries a tank of water loaded with a good wetting agent.

Effective fire control starts just as soon as this outfit can reach its destination and a man can grab the nozzle end of the booster hose and get to the fire. The resulting penetrating stream of over 120 lbs. pressure is the fastest and most important phase of fire fighting.

Do you have a garage, a truck and a mechanic with a little common sense? We have the pump you need. Write for details.

OBERDORFER
BRONZE ROTARY GEAR PUMP

PERFORMANCE DATA—No. 26 PUMP SHOWN ABOVE

Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	20'	150

For complete specifications of this and other Oberdorfer All Bronze Booster Pumps, and name of your nearest distributor, write:

FIRE PUMP DIVISION OBERDORFER FOUNDRIES, INC., Syracuse, N.Y.

WHEN LIFE IS IN DANGER — **ONLY THE BEST WILL DO!**

Designed by Chief Halligan—with 41 years service—28 as Chief officer in New York City F. D.

HALLIGAN TOOL

Made from No. 4140 steel these multi-purpose aids to entry—effective for light metal—cars—planes—roofs—walls—ceilings—even plywood and glass brick.

HALLIGAN HOOK
From 3 to 10 ft.

Save time, life and property—Use the Halligan aids to forcible entry! See your dealer or write for data and prices.

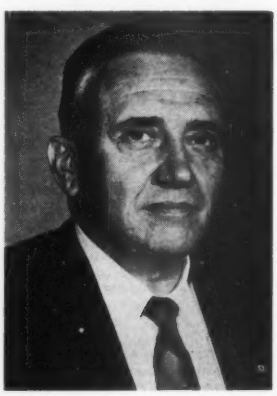
Used by Fire Depts., Police Depts. and Emergency Services everywhere.

M. A. HALLIGAN—1505 Metropolitan Avenue, New York 62, N. Y.

Persons in the News

Buck Heads IAFF

William D. Buck, secretary-treasurer of the International Association of Fire Fighters, has been elected acting president of that body by the executive board, to fill the post formerly held by John C. Redmond who died in December.



Mr. Buck was a member of the St. Louis Fire Department for 25 years and second vice president of the IAFF since 1940. He was named secretary-treasurer at the association's convention in Montreal in August, 1956.

He has long played an active part in labor relations both in St. Louis and throughout the Second District, IAFF, with emphasis on the fire service. He is a member of the Advisory Committee on Firemanship Training, University of Missouri, and of the Committee on Application of Water sponsored by the Western Actuarial Bureau, Chicago. He founded the Missouri State Council of Fire Fighters in 1943, and has served in advisory capacity since that time. He also fathered the State Association of Fire Fighters in Nebraska and Kansas.

N B F U Appointments

The appointments of Kenneth J. Carl as director of municipal surveys of the National Board of Fire Underwriters was announced by Lewis A. Vincent, NBFU general manager. Mr. Carl, a graduate of Brooklyn Polytechnic Institute, was formerly a supervisory engineer in the New York office.

Mr. Carl joined the Board in July 1940 as a field engineer. During World War II he was on loan to the War Department as an engineer in the NBFU's Advisory Bureau on Fire Protection in Washington, D. C. He returned to New York at the war's end and was promoted to office engineer.

Mr. Vincent also announced the appointment of Robert A. Young to special assistant of municipal surveys, and George R. Robinson to the post of senior assistant chief engineer. George P. Stahl

was named assistant chief engineer in the Chicago office.

These appointments complete the organizational structure of the NBFU's engineering department. There are now three major divisions, each under the supervision of a director who reports to John A. Neale, chief engineer. The three divisions are codes and standards, municipal surveys and research.

Box 1776 Association Honors Bob Kennedy, PFD Photographer

Lieutenant Robert (Bob) Kennedy, whose fire photographs have won wide acclaim for the Philadelphia Fire Department—and the intrepid photographer—was given the Box 1776 Association Citation Award for 1957 at the annual dinner of the famous Philadelphia buff's organization.

Lieutenant Robert Kennedy receives the Box 1776 Association Citation Award at the famous buff's club annual dinner. At left is Deputy Fire Commissioner and Chief of Department George C. Hink; at right, T. Seddon Duke, associate member of the organization

The association's primary objectives are the welfare and well-being of the Quaker City's fire department headed by Fire Commissioner McNamee and Deputy Commissioner and Fire Chief George E. Hink. Each year the members of the organization select the person who in their opinion, has made the greatest contribution to fire prevention and fire protection in the city. This person then becomes the recipient of the Citation Award at the annual banquet.

Association President C. Henry Jacobs made the presentation, after which Lieutenant Kennedy was escorted to the dais by T. Seddon Duke, president of the Star Sprinkler Corp., and an associate member. Present upon the occasion were the heads of the Philadelphia Fire Department and other notables.

Lieutenant Kennedy, who was appointed fireman in 1938, has filled many positions in the department. He was promoted to lieutenant on March 16, 1953, and assigned to fire headquarters as official fire department photographer and accident prevention and investigation officer.

Readers of FIRE ENGINEERING will remember his thrilling action pictures which illustrated numerous accounts of major fires and other incidents in Philadelphia. His dramatic photo "Cheating Death" shown on the cover of the No-

for FAST ACTION, the CHAMPION® FOG-TYPE FIRE FIGHTER

Cools • smothers • kills fires before they spread

CHAMPION PISTON-TYPE PUMP

Here's the model preferred by many fire-fighters because of its easy control of pressure, fog-spray and use of water.

By breaking water up into a fog-spray under pressure, the Champion Slide-Action Fire Pump cools burning substances, smothers the fire—*makes a little water do a big fire-fighting job.* Powerful slide-action pump is brass throughout with non-corroding, self-cleaning ball valves. The brass nozzle adjusts from fog-spray to 30-ft. stream by merely rotating nozzle cap. 4-ft. hose attached at top prevents water from running out when pump is below bottom of tank. Large filler opening has leak-proof cover with carrying handle and locking device to hold pump when not in use. Ventilated back of Champion design keeps operator's back dry and cool. Quality-built by a manufacturer of dependable spraying equipment since 1915.

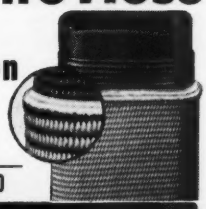
Write today for literature on both Champion Slide-Action and Piston-Type Fire Pumps. Distributorships available—write for details.

CHAMPION SPRAYER COMPANY
Manufacturer of Portable Sprayers and Dusters
6509 HEINTZ AVENUE · DETROIT 11, MICHIGAN

"SIERRA" First Quality Fire Hose

SIERRA

Contact Halprin for the Finest
Fire - Booster - Suction
Municipal, Underwriters' & Industrial Grades.
All Cotton or Dacron Filled.



SEND FOR COMPLETE CATALOG M-200

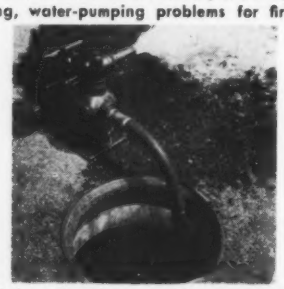
HALPRIN SUPPLY CO.
1355 South Flower St., Los Angeles 15, Calif.

Handy for your Fire Company

THE NEW HALE TORRENT

A New, Self-Priming Portable Pump Ideal for Firemen's Auxiliary Use

Lightweight, portable, and built to stand up under hard usage, the HALE "Torrent" is the sure, fast answer to the lesser, but time consuming, water-pumping problems for firemen.



Self-Priming under adverse conditions is the keynote of the "Torrent" shown here pumping out a flooded manhole. "Torrent" pumps the water level down to the "bottom," re-primes when strainer again becomes submerged.

The "Torrent" shown above is pumping water from a flooded cellar; when powered by a 2¾ H.P. 4 cycle engine will pump over 7000 gallons per hour. Its rugged and simple design handles muddy and sandy water, thus saving your Mid-ship pumps. Open Impeller helps prevent clogging.

Available 3 Ways . . .

Model 20T—Gasoline Engine Driven Unit— Furnished with 4 cycle 2¾ H.P. gasoline Briggs and Stratton Model 8FBFB engine, EQUIPPED WITH EXHAUST VALVE ROTATOR for long "trouble-free" service. Pumps up to 7000 gallons per hour.

Model 15TP—Pedestal Pump— For your available power.

Model 15TPE—Electric Motor Driven Unit— Furnished with 1½ H.P. 3450 RPM. Single Phase Motor.

Get Full Details on how the "Torrent" will increase the efficiency of your Fire Fighting Operation. Send for FREE bulletin No. 363. Write: Dept. FE.

HALE FIRE PUMP CO.
Conshohocken, Pa.

vember 1955 issue of FIRE ENGINEERING is published in the Encylclopedia Brittanica, 1956. He also received the National Press Photographers' Association "Grand Award" for this illustration.

U. S. Department of Commerce Appoints Kleinknecht

William J. Kleinknecht, general superintendent, American District Telegraph Co., New York, N. Y., has been appointed assistant director, Communications Division, Business and Defense Services Administration, U. S. Department of Commerce.

Mr. Kleinknecht is on loan from ADT and will serve without compensation from the government. □□

November Fire Losses

Estimated fire losses in the United States during November amounted to $75,321,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $75,321,000 loss represents a decrease of 6.4 per cent from losses of $80,481,000 reported for November 1956, and a decrease of 3.1 per cent from losses of $77,753,000 for October 1957.

Losses for the first 11 months of 1957 now total $931,671,000, an increase of 4.4 per cent over the first 11 months of 1956, when they amounted to $892,805,000.

These estimated losses include an allowance for uninsured and unreported losses.

Coming Events

May 15-16—Southeastern Association of Fire Chiefs. Annual meeting, Wheeling, W. Va. Secretary-Treasurer, Chief G. A. Mitchell, Fire Headquarters, Opelika, Ala.

May 15-17—**Eastern Association of Fire Chiefs.** Annual meeting, York, Pa. Secretary-Treasurer, Chief Edwin J. Clark, Box 328, Wayne, Pa.

May 19-23—**National Fire Protection Association.** Annual meeting, Chicago, Ill. General Manager, Percy Bugbee, 60 Batterymarch Street, Boston 10, Mass.

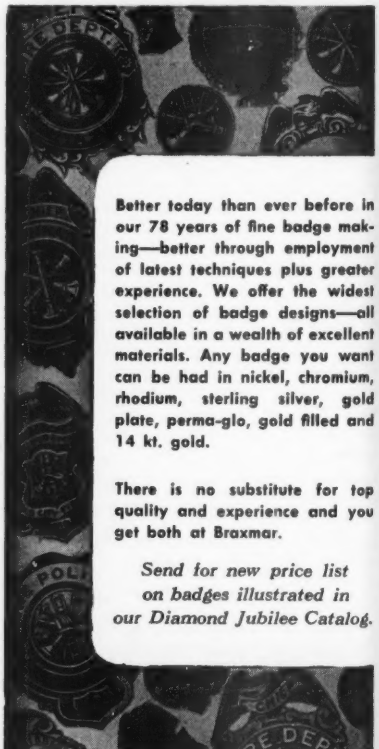
June 2-4—**Missouri Valley Fire Chiefs Association.** Annual conference to be held at the Hotel Anglers, Colorado Springs, Colo. Secretary-Treasurer, Chief Ray Tiller, Waterloo, Iowa.

June 23-26—**New England Association of Fire Chiefs.** Annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary-Treasurer, John W. O'Hearn, 2-6 Mt. Auburn Street, Watertown, Mass.

September 15—**Pacific Coast Inter-Mountain Association of Fire Chiefs.** Annual meeting held in conjunction with the International Association of Fire Chiefs, Los Angeles, Calif. Secretary-Treasurer, Jay W. Stevens, Merchants Exchange Building, San Francisco, Calif.

September 16-19—**International Association of Fire Chiefs.** Annual meeting, Los Angeles, Calif. Secretary-Manager, B. Richter Townsend, 232 Madison Avenue, New York 16, N. Y.

BRAXMAR BADGES



Better today than ever before in our 78 years of fine badge making—better through employment of latest techniques plus greater experience. We offer the widest selection of badge designs—all available in a wealth of excellent materials. Any badge you want can be had in nickel, chromium, rhodium, sterling silver, gold plate, perma-glo, gold filled and 14 kt. gold.

There is no substitute for top quality and experience and you get both at Braxmar.

Send for new price list on badges illustrated in our Diamond Jubilee Catalog.

THE C. G. BRAXMAR CO., INC.
Dept. FE
216 East 45th Street
New York 17, New York

THE WATCH DESK

overhauling the firemanic news of the day

Hero or Arsonist?

This'un comes from an anonymous Kansas City correspondent. It concerns a Lincoln, Neb., woman who awoke from a nap to find her boxer puppy running around the house with a flaming rug in its mouth.

Mrs. J. R. Ashelman said she had put the rug on the kitchen stove to dry.

She vainly tried to catch the dog, then telephoned the fire department. She was lucky on this score—response was surprisingly fast, because it so happened that a fire rig and crew were right across the street from Mrs. Ashelman's house, doing field inspection when they picked up the alarm on the radio.

The prompt response held damage to the rug and floor. Firemen and Mrs. A. are trying to figure out whether the dog was trying to be a hero or an arsonist.

Room K-9 No Doubt?

The proprietor of a Texas motel—we wish we had his name—received a letter asking for a reservation. At the same time the question was asked if the applicant could bring his dog along.

The proprietor replied: "We have never had a dog fall asleep in bed smoking and burn anything up. We have never had a dog spill alcoholic drinks all over the furniture and ruin it. We have never caught a dog leaving the premises with a bath towel or pillowcase in his suitcase. Sure, the dog is welcome."

The Name's the Same

A routine telephone call resulted in quite a disturbance recently in Council Bluffs, Iowa. Three fire companies and the chief of department rolled to a downtown business address when local police reported a fire at that location.

Seems in Council Bluffs the police employ "meter maids" to collect the parking meter receipts; one of them is Mrs. Lillian Farr who, in keeping with her orders, reported her location to police headquarters every 30 minutes.

At 2:30 p.m. on this particular afternoon, the desk sergeant overheard the incoming call: "Farr at the Peoples Store." Queried the sergeant taking the call, "Fire at Peoples Store?"

"That's right," answered Mrs. Farr. The sergeant flashed the fire department "toot sweet" which responded with a full assignment to battle the blaze.

Hereafter when Meter Maid Farr reports, she will say "Lillian at. . . ."

Give the Boy a Hand!

The posies of the month go to Ernest Pool, 8 years old, of Little Rock, Ark.

Ernest was in the kitchen of his ramshackle home on December 3 washing dishes and minding eight of his brothers, sisters and cousins. His mother and aunt were about half a mile away picking cotton.

Suddenly, the tin pipe extending from the wood stove to the roof clattered to the floor and the stove overturned. Papers that were scattered on the floor burst into flames.

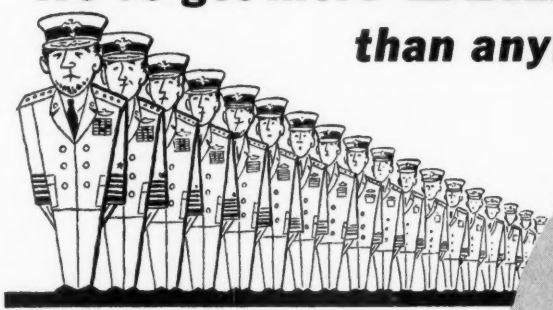
Twenty minutes later the shack was in ruins. Beyond the rubble stood nine children, ages 13 months to 8 years. They were unharmed. Ernest, the 8-year-older, had saved everybody.

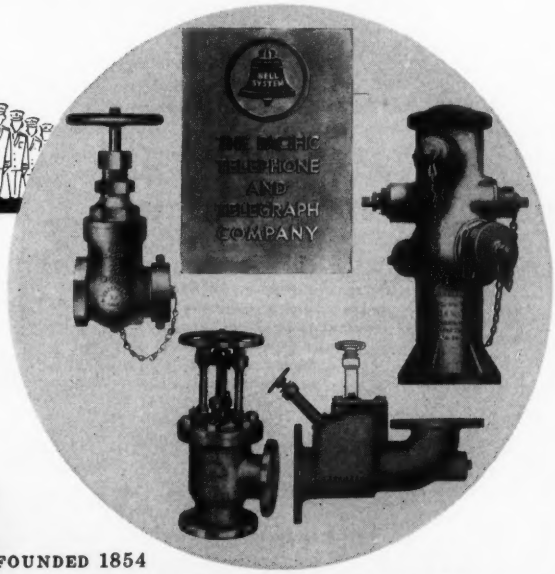
"I just grabbed them and threw them out," he said by way of explanation.

Hot Off the Tape

Firemen of Carbondale, Pa., didn't stay for breakfast although they were invited to an early morning barbecue. Invitation —and alarm—came from Henry Robinson, who didn't wait to write, but phoned

We've got more **BRASS** (and bronze) than anybody! M. Greenberg's Sons





Manufacturers of a complete line of bronze products including valves and fittings for Navy, Maritime and industrial use; fire hydrants and industrial valves approved by Underwriters Laboratories, Inc. and Associated Factory Mutual Fire Insurance Companies; plumbing specialties, plaques, letters and Josam drain products.

BRONZE PRODUCTS by M. GREENBERG'S SONS

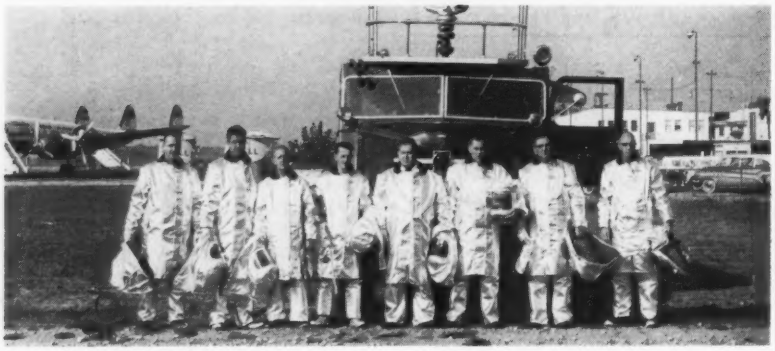
765 Folsom St. · San Francisco · Calif. · EXbrook 2-3143

Offices in Principal Cities throughout the United States

FOUNDED 1854

Please send for our complete catalog

FIRE FIGHTING UNIT EQUIPPED WITH CRASH-FIRE SUITS



One of the first fire fighting units in the country to be completely equipped with Aluminized Fiberglass crash-fire suits is the Dayton, Ohio Fire Department's unit at the Cox Municipal Airport.

Airport Manager Forrest Bowman and Fire Chief Jack Miller, after surveying their protection problems decided that the increase in traffic made it imperative to have clothing for the men that would enable them to take fullest advantage of their modern truck and fire fighting equipment.

Chief Miller, an eleven year veteran at the airport said, "We were missing a real bet by not giving our men protective clothing that would enable them to do a quick, efficient job approaching a crashed and burning aircraft, get the people out and deal with the intense heat of a burning aircraft."

Chief Miller continued, "We set out to find and prove to ourselves what was the most effective and best combination of clothing to ward off radiant heat and yet enable our men to do their job without being burdened with excessive weight."

The suits were designed and manufactured by Fyrepel Products, Inc., Newark, Ohio, pioneers in the field of aluminized fire clothing. The suits were tested at Wright-Patterson Air Force Base crash fire training grounds. Chief Miller and his men participated in the successful tests.

An interesting sidelight is the fact that Fyrepel's president and sales representatives demonstrated their own equipment. John Weaver, Fyrepel's president summed it up, "in order to design this equipment, we need to share the fire fighters' experiences—if we go into the fire ourselves we had better be right."

Further information can be obtained by contacting Fyrepel Products, Inc.

FYRE **REPEL** NEWARK, OHIO

Dealerships Invited.

DON'T SPECULATE-
...STEP UP
YOUR EFFICIENCY!
The accelerated tempo of modern times demands modern techniques plus stepped-up efficiency. Fire departments everywhere find the Super Vacuum Smoke Ejector provides the extra margin of efficiency necessary in modern day fire fighting. New and revolutionary in design, Super Vacuum will outperform other fans twice its size... gives the positive, controlled ventilation essential to the prompt, efficient control of fires.
CONTROL VENTILATION
...CONTROL FIRES!
The heart of the SUPER VACUUM Smoke Ejector is the patented propeller. Conventional fans produce a chopping, recirculating action. In contrast, the SUPER VACUUM propeller is a perfect spiral air screw which creates a vacuum...suction is created over the entire face of the propeller and the air or smoke is discharged in a high velocity spiral. There are no dead spots.
THE HEART OF THE SUPER VACUUM
WRITE FOR ADDITIONAL INFORMATION OR CONTACT YOUR LOCAL FIRE EQUIPMENT DEALER
MANUFACTURED BY
Super Vacuum MANUFACTURING CO. INC.
319½ E. 17th Ave., Denver 3, Colorado

the 'invite,' marking it RSVP—PDQ. Seems his pig pen was afire. All the porkers escaped except one which was done to a turn. . . . In East Irvington, N. Y., Joseph Pallino, 7, played with a can of fire extinguisher fluid. The spray got into his eyes. He was taken to Grasslands Hospital, treated, and sent home, sadder but wiser. No serious injury. . . . A 9-year-old girl, Gretta Bohlmann of Denver, Colo., walked away from a 7,600-volt shock. She brushed against a bushing on a transformer in a high voltage shed of a shopping center. Jolt of nearly three times that used in execution chairs burned her on left hand and arm, chest, stomach and thigh. . . . In Ravenna, Ohio, a 17-year-old boy, accused of setting 35 fires, including a $90,000 church blaze, complained in Portage County Jail that he had no way to light his cigarettes. "They won't let me have matches here, you know," he told a reporter. . . . Yes, J. K.—we repeat that one about cornerstone-laying ceremonies for a firehouse in Selkirk, N. Y., that hadda be postponed because nobody had thought to order the cornerstone. . . . This'un was headed "Well-Bread Fire Alarm," and told how Los Angeles City firemen hustled to a downtown eaterie on September 17 to extinguish a reported kitchen fire. They were too late, said the report adding: "The piece of toast blazing away in a faulty toaster already was burned beyond recognition." . . . From Union, S. C., comes the report about Firemen Bud Keisler and Robert Blalock. They shoulda stayed home. The two alarms received during the day came from there. . . . Gene Curtis had no trouble getting assistance when his car caught fire on the highway south of Laramie, Wyo. Curtis, a Wyoming Highway Patrolman merely used his little old two-way p.d. radio to summon the Laramie rural fire truck. Selah! . . . When fire broke out in the basement of the Onondaga County jail, in Syracuse, 21 prisoners, one a woman, were evacuated from cell blocks without fuss and returned to cells after the brothers had doused the blaze. . . . In most cities firemen were the first to receive inoculations against Asian influenza. . . . In California, the Western Asbestos Co., which makes fireproof building material, burned down. . . . From Wyckoff, N. J., comes the report of Fire Company 2 which was called out of a Friday night to extinguish a fire in a shack on Route S4B near the Hawthorne line. The vamps did a good job of dousing the blaze in the little pump house, owned by the Hawthorne Gospel Church only to find out that they were encroaching on their neighboring Hawthorne fire fighters. . . . Among the 300 N.Y.F.D. captains who aspired to become battalion chiefs and took the exams, was Julius Drahein, 44, who because of injuries suffered while on duty in 1953 wears a neck brace. . . . Posies to 12-year-old Donald Nelson of Spartanburg, S. C., who reportedly saved the life of his playmate Tommy Wright, 8. When Tommy's clothes caught fire, while the boys were "camping" in his backyard, Donald rolled him on the ground smothering the flames. Tommy was expected to recover. □□

Obituaries

John P. Redmond

John P. Redmond, 65, president of the International Association of Fire Fighters, AFL-CIO, died December 10, following a heart attack suffered the previous day, while he was attending the convention of the American Federation of Labor and Congress of Industrial Organizations as a delegate at Atlantic City.

Mr. Redmond, who lived at Silver Springs, Md., began his career in the fire service when he was appointed to the Chicago Fire Department in 1912. He served that department in the positions of lieutenant, captain, battalion chief and division fire marshal. In 1930 he was elected a vice president of the IAFF and in 1946 was chosen as president of the association. He was honored by the Federal Government in 1949 with an appointment as a U. S. labor advisor for the International Labor Conference at Geneva. He has served on many important committees of the International Association of Fire Chiefs and addressed that body at its recent conference in New Orleans.

Surviving are his wife, Mrs. Theresa Redmond; a son, John Redmond; and a daughter, Mrs. June Durkin.

Retired Chief Frank P. Kelly

Frank P. Kelly, 70, former chief of the San Francisco Fire Department, died on December 11, following a long illness. He retired from the department on April 11, 1957, after 48 years of service.

Chief Kelly was a youth of 18, working as a plumber's helper, when the 1906 earthquake and fire occurred. He joined the fire department three years later, was appointed lieutenant in 1920, captain in 1924 and fire marshal in 1926. In 1936 he was placed in charge of the Bureau of Fire Prevention and Investigation, remaining in that position until his appointment as chief of department in 1953.

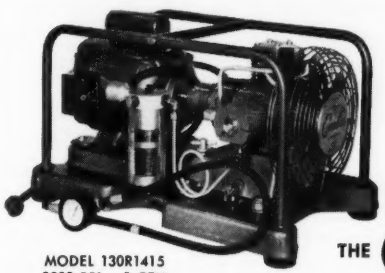
As fire marshal he was keenly interested in clearing slums as potential fire hazards and he worked closely with the

From one chief to another . . .

CHIEF WM. J. CAWKER
TOPEKA, KANSAS, SAYS:

"The Cornelius air compressor is a valuable asset to any fire department."

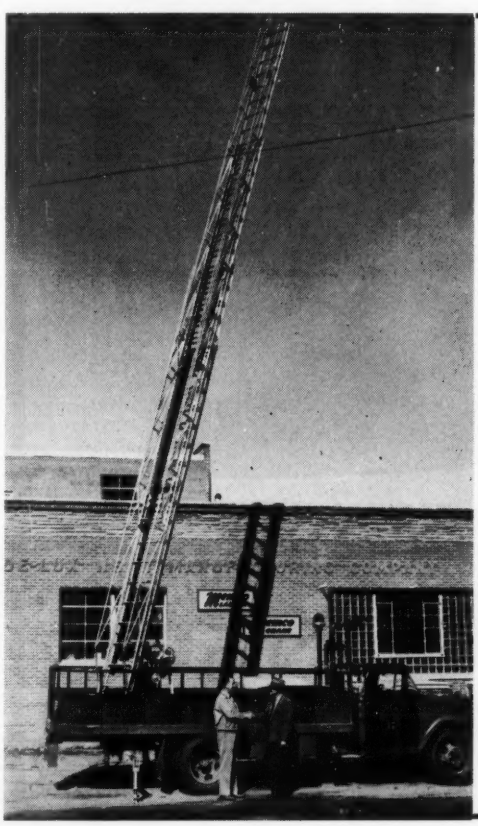
Chief Cawker reports: *"The City of Topeka moved to replace canister type masks with pure air masks in May, 1952. When the change-over was completed we solved the problem of a dependable supply of compressed air through the acquisition of a Cornelius Model 130R1415 high pressure air compressor. This cleared up any uncertainty of an adequate supply of clean air. This compressor is a valuable asset to any fire department."*



MODEL 130R1415
3000 PSI – 2 CFM
Weight complete – 95 lbs.

There is no substitute for an abundance of pure, fresh air for prompt, effective fire fighting. Write today for FREE Cornelius portable compressor catalog or call your fire equipment distributor for a demonstration. Find out why Cornelius compressors are recommended by fire chiefs everywhere.

THE Cornelius COMPANY
550 - 39th Avenue N.E. • Minneapolis 21, Minnesota



MEMCO AERIAL LADDER

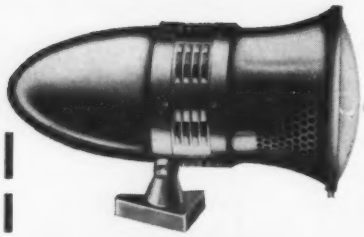
The picture on the left shows G. E. Mitchell, Chief of the Opelika (Alabama) Fire Department, and Treasurer of the International Association of Fire Chiefs, taking delivery of his new, three-section, 65 foot, all electrically operated Memco Aerial Ladder from B. D. Sponhaltz, designer of the apparatus. The body on the Ford F-600, with 172" wheelbase and 8:25 x 20 tires all around, was built by Chief Mitchell and his men.

Chief Mitchell is pardonably proud of his well equipped Department, for he knows that good equipment adds to the fire fighting efficiency of his organization.

A Memco Aerial Ladder will add to the fire fighting efficiency of your Department, *too*. Write for a copy of the new 1958 catalogue. It's free for the asking. Don't put it off—DO IT TODAY.

MEMCO AERIAL LADDERS are available in 50 and 65 foot lengths, and are priced to be within YOUR budget.

MEMCO AERIAL LADDER CO.
1007 N. W. 36th Street
Telephone JAckson 5-6828
Oklahoma City 18, Oklahoma



MODEL 20 SIRENLITE
for Emergency Vehicles

Siren sounds a penetrating warning, red light automatically flashes authority. Traffic opens instantly, day or night. FREE ROLLING feature.

STERLING SIRENS

- HANDSOME
- RUGGED
- RELIABLE

Built by proud craftsmen to the highest standards of precision manufacturing . . . utilizing materials of finest quality . . . Sterling Sirens give year-after-year of unsurpassed dependability and satisfaction.

MODEL 20 SIRENLITE
FIRE ALARM SIREN
for Volunteer Systems

Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.

Complete line of Siren Equipment • *Bulletin on Request*

THE STERLING SIREN FIRE ALARM CO., INC.
10 BARTLETT ST., ROCHESTER 8, N. Y.

HELMETS
BY
CAIRNS

IN LEATHER, ALUMINUM, FLINT-FLEX

REGULATION and DROP BRIM STYLES

THE FIREMEN'S
FIRST LINE OF DEFENSE
SINCE 1836

We can supply, in addition, everything the fireman needs for his personal equipment. Write for Catalog 351.

CAIRNS & BRO., Inc. — Allwood, Clifton, N. J.

health and public works departments on such projects.

He was a member of the International Association of Fire Chiefs and the Pacific Coast Inter-Mountain Association of Fire Chiefs. Surviving are his wife, a daughter and a son.

Lowell M. Limpus

Lowell M. Limpus, 65, for 33 years on the editorial staff of the *New York Daily News*, died on December 19, in his apartment in New York City. Mr. Limpus was well known in fire circles as the author of "History of the New York Fire Department" and editor of "Manual of Instruction, New York Fire Department."

Our Readers Write Us

Bouquets and Brickbats

The following excerpts were taken from some of the many letters which came to the editor's desk during the year 1957.

These letters are important as they give us an idea of what our diversified reader family thinks about FIRE ENGINEERING.

Municipal Firemen

"Especially interesting are accounts of major fires in larger cities and the methods used to cope with them."
Captain

"Features and Departments highly satisfactory."
Fireman

"Have read it for years. Always found it very interesting."
Captain (Actg. Batt. Chief)

"I consider this magazine study material for promotion examinations."
Fireman

"I'm the first engineer in our company and the help which I get from FIRE ENGINEERING on new equipment is unmatched."
Lieutenant

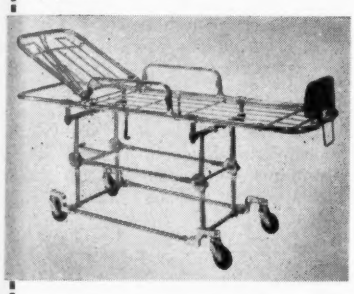
"I particularly like your new style and your coverage of one subject from start to finish in numerous consecutive issues."
Captain

"Your magazine was recommended as an important part of my study material in preparation for promotional examination for lieutenant. I attained fourth position in a recent examination with a mark of 91.20 in a field of 49."
Fireman

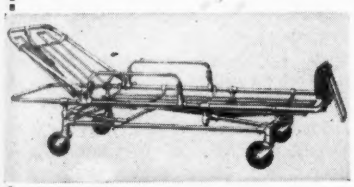
"I think this is a wonderful magazine. It gives us facts of what has happened in other cities, such as fire losses, etc."
Fire Marshal

WASHINGTON
finest quality COTS and STRETCHERS for emergency use

• Washington's complete line of ambulance cots, stretchers, cot fasteners and other emergency equipment has featured the finest craftsmanship and highest quality in the industry, for over 33 years! First aid and rescue squads, fire departments, factory hospitals and first aid rooms have always depended on Washington for their complete needs. Washington "safety engineered" equipment is fully guaranteed—gives you the best for the same price as ordinary equipment.



MODEL 54-L ELEVATING COT—A Washington exclusive design. Elevates to near hospital bed height, yet lowers to only 9½" high! A perfect cot for vehicles with limited head room and overhead hanging stretchers. Here's all the advantages of an elevating cot—plus extra head room when lowered.



MODEL 52 ELEVATING COT — Another Washington exclusive. Elevates to home bed level, lowers to 12¾" high. A fine all-purpose cot that is absolutely safe—locks securely in raised position.

MODEL 18 FOLDING STRETCHER—Ruggedly constructed fold-away model gives strength with light weight. Folds to 4½" high.

See your jobber or write for FREE catalog.

WASHINGTON
Products Company
Washington Court House, Ohio

Volunteer Firemen

"I suggest that your coverage of fires go into more detail."

Fireman

"I have only recently received my first copy but find this magazine one of the most interesting I have ever read."

Fireman

"It's interesting to note what's going on outside New York City."

Auxiliary Fireman

Industrial

"Your magazine is excellent."

Industrial Fire Chief

Buffs

"I have greatly enjoyed FIRE ENGINEERING for over 25 years. It was about that time that I saw my first copy in a Los Angeles F. D. station."

Buff and President of prominent buffs club.

We Start Them Young

Dear Editor:

I am one of your new—if not your newest readers. My name is William J. Wells, Jr. I am—oh well, just skip my age, but I am the son of Assistant Chief William J. Wells, of Winthrop, Mass.

I am pictured here with my favorite magazine. As you can see, I'm pretty keen about it. In fact, I literally drool over it.

I want you to know I really get a bang out of FIRE ENGINEERING. It has pictures —and I love pictures; it has the very smell of smoke—the thrill and excitement of the fight with fire and I dote on action! It has facts—all of the things I want to know to help me become a good fireman like my Dad.

And say, I like to "pour" over those pages of bright, shiny fire engines, and all those other things which firemen use. Right now I'm a bit too small for the regulation boots and all that other stuff, but I've got my own "turnout"—in fact, I've got a lot of 'em.

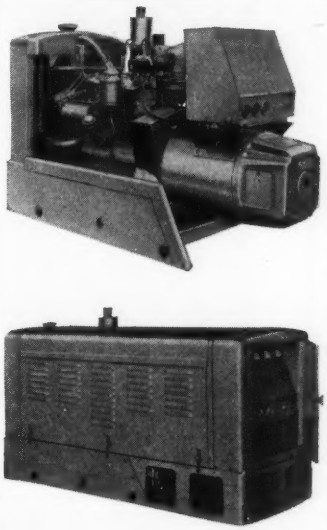
My Dad tells me I ought to make a good fireman, At least I've got the lungs for it all right. I can take a good 'feed,' too, with the best of 'em.

Well, that's about all for now. Happy New Year to you!

William J. Wells, Jr.

Onan
ELECTRIC PLANTS

ELECTRIC PLANT NEWS



Onan develops new low-cost standby plants

Water-cooled units in 10 and 15 KW sizes meet rigid requirements

A new series of water-cooled electric plants makes Onan reliability and advantages available at significantly lower prices. The new units are powered by the same rugged, industrial-type engines used on more expensive plants. They have close inherent voltage regulation, operate on either gas or gasoline, and are equipped with all necessary controls and instruments, and high water temperature cut-off. Standard Onan accessories are available.

The Onan revolving armature, all-climate generator is direct-connected and self-aligning. All standard voltages are available. Both sizes are offered unhoused or with handsome weatherproof steel housings.

Write for specifications

Onan
ELECTRIC PLANTS

D.W. ONAN & SONS INC.
2936A University Ave., S.E.
Minneapolis 14, Minnesota

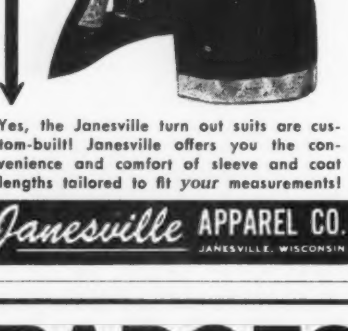
WHY *Janesville* IS FIRST

IT'S CUSTOM-BUILT!

Yes, the Janesville turn out suits are custom-built! Janesville offers you the convenience and comfort of sleeve and coat lengths tailored to fit *your* measurements!

Janesville APPAREL CO.
JANESVILLE, WISCONSIN

BADGES
of authority



DESIGNED WITH DISTINCTION
EXECUTED IN METALS OF TIMELESS BEAUTY... WORN WITH HONOR AND RESPECT
Descriptive catalog free on request

Everson-Ross
55 VANDAM STREET
NEW YORK 7, N.Y.

the round table

discussion of current fire department and fire management problems

Sprinkler and Standpipe Procedures

THIS IS THE THIRD installment of the Round Table on sprinkler and standpipe practices.

The generous response from our readers makes it necessary to carry the discussion over to the February issue. The editors will welcome any additional comments on the subject. Address replies to Round Table Editor, FIRE ENGINEERING, 305 East 45th Street, New York 17, N. Y.

Discussion of the Subject

Thomas M. Lane, Chief, Alameda, Calif.: We always connect to outside siamese of standpipes regardless of the size or extent of the fire, as we want to be prepared for any fire which might assume greater proportions later. The first line is stretched, provided the fire is above the first floor.

We use 2½-inch hose, as this is the standard size used in our department.

Although the thread size in all manufacturing plants and buildings corresponds to the size used in our department, occasionally we do substitute our own hose lines, especially when we have to extend their length. This hose is made up in donut formation.

B. P. Lemieux, Chief, Calgary, Alta.: If fire is visible on arrival, connection to outside siamese would be made. Otherwise, outside connection would not be made unless requested by the officer on the fire floor through walkie-talkie communication system.

Usually two 2½-inch lines from pumper are used.

If the standpipe has a fog nozzle, we would use it. Otherwise, we would change the nozzle.

We prefer our own lines operated at the right pressure for the type nozzle in use, and direct from the pumper.

The hose is carried to fire floor by use of the one-man carry, that is folded over shoulder.

Frank Briers, Chief, Victoria, B. C.: First company in lays direct to fire; second company in, if the building is sprinklered, connects to sprinkler system to keep up pressure should it drop on account of numerous sprinkler heads opening.

We use 2½-inch wye in every instance, in accordance with regulations covering sprinklered buildings.

We do not depend on standpipe house lines as they vary from 1½ to 2-inches. We only depend on standpipe house lines as first aid protection until the department arrives, as they often do more water damage than necessary on account of open nozzles. One man checks house lines to see that no more damage is done than necessary by water, while the rest of the company stretches lines with shutoff nozzles.

B. L. Warlick, Chief, Jackson, Tenn.: We stretch a later line to outside siamese.

We use 2½-inch hose.

On inside fires we substitute our own line, which is carried in donut form.

Donald S. Charles, Chief, Charlotte, N. Car.: In our operations, the first-due company stretches in to the fire and the second-due unit lays lines to the siamese, on orders from the chief officer responding.

We use 2½-inch hose for outside connections.

We substitute our own hose for the house line if it is not the cotton rubber-lined type. The hose is carried in the form of an already prepared donut roll with fog nozzle attached.

Gerald Vernotzy, Chief, Akron, Ohio: Connection to outside siamese of sprinkler system is made on an order from the officer in charge of fire.

Two lines of 2½-inch hose is used.

We substitute our own line, which is carried in donut form.

Leo C. Driscoll, Chief, Boston, Mass.: Department Rule 187 is observed as follows: "The second engine company arriving at a fire in a sprinklered building shall connect their first line to a steamer connection." However, if in the opinion of the officer in charge, this cannot be

THIS MONTH'S QUESTIONS

Do you connect to outside siamese of sprinkler systems or standpipes regardless of size of fire? If so, is this the first line stretched or a later line?

What size hose is used for outside connection (2½-inch, 3-inch, etc.)?

On inside fires do you remove standpipe hose line and substitute your own? If so, in what form is this hose carried (accordion fold, donut, etc.)?

accomplished, then the first line from the third arriving company shall be so connected. Naturally, if the size of the fire is such that the officer in charge determines that the services of these companies are not required because of the minor nature of the fire, he may omit compliance with this rule.

Most all our companies carry 3-inch and 2½-inch hose and if a second line should be needed to be laid to the siamese, it would be a 3-inch line. Our first operation calls for a 2½-inch line.

On inside fires it is our practice not to depend on house lines but to run our own lines, usually from the floor below the fire. This hose is carried on the apparatus in the donut roll. A minimum of two lengths are so rolled. There is nothing in this procedure which would prevent the use of the smaller first-aid lines to hold the fire in check until our own lines are connected to the fire department standpipe. Most locations where there are standpipes, have a separate first-aid line throughout the various floor areas and the fire department standpipe connections and valves are located in the stairways.

Allie A. Feldman, Chief, Denver, Colo.: We generally, but not always, make outside connections. On an obvious fire, an outside connection is definitely made.

Two-and-a-half-inch hose is used.

We substitute our own line, which is 100-foot single jacket rubber lined hose, carried in donut form with nozzle, spanner and adapter, all held together with leather harness, carried on back of fireman with hands free.

D. Clawson, Chief, Winnipeg, Manitoba.: We connect to outside siamese if building is sprinklered. Second engine company in connects to sprinkler and standpipe siamese connections.

Two-and-a-half-inch hose is used.

Where inside standpipes have either 1½-inch or 2½-inch outlets, fire department hose is used where expedient.

Hose is carried into buildings in both accordion fold and donuts, depending on apparatus attending alarm.

F. C. MacGillivray, Chief, Halifax, N. S.: We connect to outside siamese.

We use 2½-inch hose.

On inside fires we substitute our own line, which is carried in donut form.

F. E. Saefke, Chief, Fargo, N. D.: The second engine company in connects to outside siamese.

We use 2½-inch hose.

We substitute our own hose depending on the type and size of the fire. If we use our 2½-inch hose, it is carried in accordion fold.

H. C. Pate, Chief, Honolulu, T. H.: Our first line is connected to outside siamese.

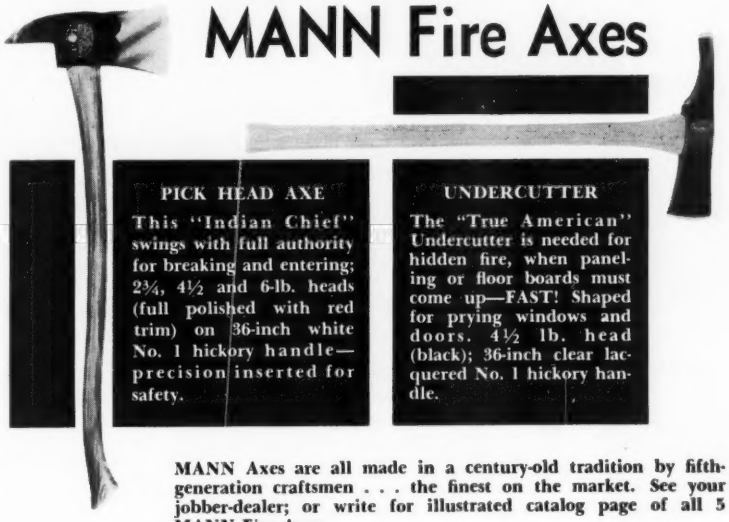
Two-and-a-half-inch hose is used.

On inside fires we substitute our own line, which is carried in 100-foot lengths accordion fold.

Only the best is "good enough" . . . in an emergency!

That's why tens of thousands of firemen—for more than a century—have demanded . . .

MANN Fire Axes



PICK HEAD AXE

This "Indian Chief" swings with full authority for breaking and entering; 2¾, 4½ and 6-lb. heads (full polished with red trim) on 36-inch white No. 1 hickory handle—precision inserted for safety.

UNDERCUTTER

The "True American" Undercutter is needed for hidden fire, when paneling or floor boards must come up—FAST! Shaped for prying windows and doors. 4½ lb. head (black); 36-inch clear lacquered No. 1 hickory handle.

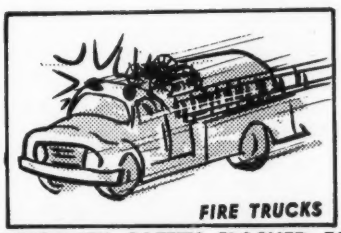
MANN Axes are all made in a century-old tradition by fifth-generation craftsmen . . . the finest on the market. See your jobber-dealer; or write for illustrated catalog page of all 5 MANN Fire Axes.

MANN EDGE TOOL COMPANY

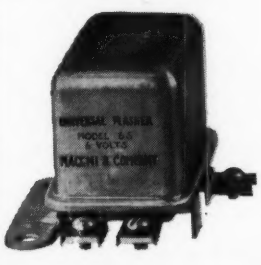
Lewistown 4, Pennsylvania

Kay-Lab Flashers for Warning Lights

"KAY-LAB" FLASHERS are specified by many fire depts. Repeatedly the choice of City, County and State governments requiring flashing lights on emergency vehicles because only "Kay-Lab" has the features specified.



FIRE TRUCKS



"STOP-IT" SAFETY FLASHER FOR "CHIEFS" CAR

Makes lights flash on-and-off. Used for flashing warning signals and directional signals. Continues to burn lamps with a steady light in event of failure. Available in 4 types. Will flash one, two, three, four or any combination of lamps up to 6 amperes without matching flasher to load. 6 and 12 volts.

"UNIVERSAL" ALTERNATING FLASHER—FOR "HOOK-AND-LADDERS" AND MULTIPLE LIGHT VEHICLES

Heavy duty. Meets requirements of State Laws for alternating flashing signals. Up to 15 amperes. 6 or 12 volts. No parts to wear out, requires no lubrication, no up-keep. Operates magnetically. Good for lights or horn signals.

Write for Folder, Prices and Discounts.

MACCHI & COMPANY

819 Valencia Street, San Francisco 10, Calif.

The Fireman's Choice

Powerful Light

When he needs it—where he needs it

Big Beam

PORTABLE ELECTRIC HAND LAMPS

Model 700-A 2000-foot beam

Most powerful, heavy-duty hand lamp of its size. Adjustable 6-inch head. Operates on four standard No. 6 dry cells.

Model 211 1500-foot beam

Popular price, light weight, easy to carry. Adjustable 5-inch head. Holds two standard 6-volt lantern batteries. Operates on one; other is a spare.

Write for folder on complete information on these and other Big Beam dry-cell and storage-battery models.

U-C LITE MANUFACTURING CO.

1041 West Hubbard St., Chicago 22, Illinois

In Canada: Bernard Marks & Co., Ltd., 70 Claremont St., Toronto 3, Ontario

FIREMEN'S UNIFORMS and ACCESSORIES

Uniforms tailored from the new DuPont Dacron blended materials

RUSSELL UNIFORM Company NEW YORK

RUSSELL UNIFORM CO.
192 Lexington Ave.,
New York 16, N. Y.

Please send free information as checked below.

- ☐ Circular of firemen's uniforms and equipment
- ☐ Samples of all wool materials and measurement forms
- ☐ Samples of Dacron blended materials, prices and measurement forms

Mr. .....

Address .....

City..... Zone.... State....

World-Wide Fire News

Manchester, U. K., Blaze Biggest Since Blitz

The largest fire in Manchester, England, since the Blitz of World War II, recently destroyed Paulden's Ltd., a department store which had been doing business at the same location since 1865.

The Paulden building occupied most of a square block; it was constructed of stone and measured approximately 200 by 233 feet. Immediate exposures included a church where services in progress were hastily concluded, and a temporary annex to the main store. Firemen prevented serious damage to the latter buildings although it was necessary to extinguish more than 20 small neighborhood fires which were caused by sparks. At the height of the blaze two of the building walls crashed to the street showering glass, masonry and other debris over the pavements of the four surrounding streets. Fortunately no one was injured.

The Manchester Fire Brigade received the first alarm at 5:20 p.m., Sunday, September 8, via the building automatic supervisory alarm circuit. It responded with a major pump and two pump escapes. Before being brought under control, 13 units of the Manchester Brigade, as well as assistance from five other communities were involved.

The fire apparently started on the first floor (in this country the second floor) about the middle of the building in some fitting rooms. It spread rapidly and threatened to engulf members of the first station unit on the scene, who were estimated to have arrived within two minutes after receipt of the alarm. The officer in charge had ordered two men to bring the first line into the building while he went to work with four hand extinguishers located on the premises.

The fire spread among the articles of

Manchester firemen reach safety before department store wall buckles and crashes to the street. Building and contents were destroyed in most spectacular fire since World War II

Safe, secure two, four, or six man carry with new stretcher

Here's another use for the versatile new Haggard's all-purpose stretcher kit. No matter what type of stretcher you now have, you have need for the new Haggard. It does all the things any stretcher can do, plus many more. It is a complete unit ready for instant use anywhere. It is so compact that it fits into a car trunk. Lightweight, only 28½ pounds complete with case, blanket, first aid supplies, and accessories. It's such a totally new concept in utility, versatility and practicality that you should investigate it at once. See how easy it is to store, transport, and put to use. See all the advanced, needed features that make it a combination litter, fracture board, traction splint, and resuscitator. Compact, convenient, complete. Ask your MSco distributor for a demonstration or write Medical Supply Company, Rockford, Illinois. In Canada, Safety Supply Company, Toronto 2.

The "Original" McIntire

INVINCIBLE NOZZLE

- From 300 to 10,000 GPM
- Locks in Position

Fig. 3

Comes as a complete unit ready to thread to standpipe. Universal in action. Locks in position — can be used unattended. Used on either trucks or as fixed protection in hazardous locations. Write for further information.

F. N. McINTIRE BRASS WORKS, INC.

CAMBRIDGE 39, MASS.

clothing, and a tremendous updraft, apparently coming from the basement, blew flaming material all over the floor. The firemen brought the first line into play and were within a dozen feet of the seat of the fire when the flames spread behind them and threatened to cut them off. At this point a second line was brought in, but both hose crews were forced to withdraw for their own safety. The fire quickly raged through two openings in the center wall of the building, and a third opening which later was found to have been covered with hardboard, and up the stairs to the second and third floors (in this country, third and fourth).

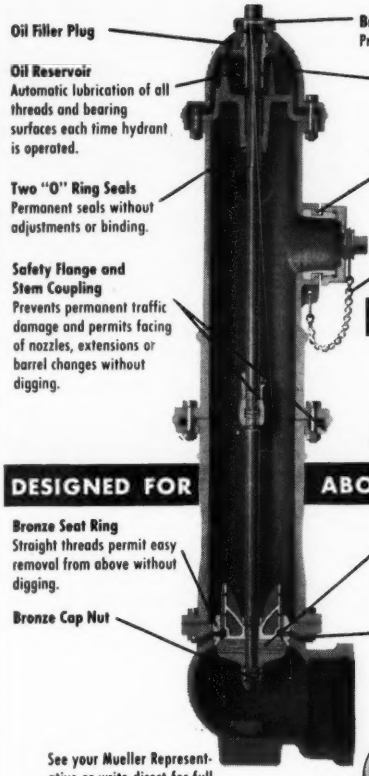
Within an hour the roof had fallen in and in 90 minutes the entire building was gutted with all merchandise destroyed. The fire was declared under control four hours after the first alarm and all companies were relieved with the exception of watch units which remained on the scene until the following Tuesday. Reports indicate that arson or sabotage were not involved.

Units of the Manchester Brigade operating at the fire included three pump escapes, two major pumpers, two turntable ladders, a salvage tender, a control unit and the canteen van. Assisting were a pump escape and a turntable ladder from Salford, a pump escape from Oldham; a major pumper from Stockport; four pump escapes and a water tender from Cheshire; and two pump escapes, two turntable ladders and two water tenders from Lancaster City.

Acknowledgement: The account of this fire has been taken from reports appearing in the October 1957 issue of "Fire Protection Review" and the September issue of "The Fireman," both published in London, England.

From the World News Ticker

In London, England, firemen climbed ladders to help the God of Love out of a pretty predicament. The nude statue of Eros in Piccadilly Circus was wearing a pair of pink panties. . . . Fire, fanned by 60 mph gusts of wind, destroyed the Malibu, Calif., ranch-type house of movie producer Sam Zimbalist. Firemen said loss may reach $100,000. . . . Explosions rocked the western Javan city of Bandung, Indonesia, on December 8, as ammunition in an army depot exploded. Bandung area was placed under a state of emergency. . . . London police cordoned off a large part of Victoria Station December 8 after an anonymous caller telephoned Scotland Yard there was a bomb in the terminal's luggage office. The Bobbies found nothing. . . . Anti-government terrorists bombed an oil pipeline near Buenos Aires and flowing oil ignited to damage a railroad bridge, disrupting traffic, and causing loss of $125,000. . . . A windstorm smashed a two-story schoolhouse in Altofonte, near Palermo, Italy, December 13, killing 11 including the headmistress of the school and injuring 11 others. Firemen and soldiers dug out the victims. □□


Oil Filler Plug
Oil Reservoir
Automatic lubrication of all threads and bearing surfaces each time hydrant is operated.
Two "O" Ring Seals
Permanent seals without adjustments or binding.
Safety Flange and Stem Coupling
Prevents permanent traffic damage and permits facing of nozzles, extensions or barrel changes without digging.
Bronze Weather Cap
Prevents ice-locking of operating nut.
Dry Top Design
Operating threads and bearing surfaces sealed from water.
Breech-Locked Nozzles
Interlocking lugs plus calking prevent blow-out.
Individual Non-Kinking Chains
Bronze Seat Ring
Straight threads permit easy removal from above without digging.
Bronze Cap Nut
Compression-Type Main Valve
Closes with the water pressure—and stays closed. Permits repair or modification without water shut-off!
Double Drain Openings
Automatically force-flushed each time hydrant is opened or closed.

MUELLER®

AWWA Improved Fire Hydrants

DESIGNED FOR ABOVE-GROUND MAINTENANCE!

See your Mueller Representative or write direct for full details.

MUELLER CO.

Chattanooga, Tenn.

Factories at: Decatur, Chattanooga, Los Angeles, In Canada: Mueller, Limited, Sarnia, Ontario.

Morning Pride

"SCOTCHLITE"

REFLECTIVE FABRIC

SAFETY CONDITIONED FOR YOUR PROTECTION • "SCOTCHLITE" IS AVAILABLE ON ALL TYPES OF COATS.

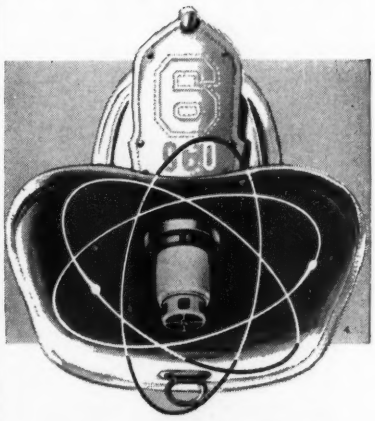
Free Literature On Request

See Your Local Dealer or Write

MORNING PRIDE MFG. CO.

1986 HOME AVE., DAYTON 7, OHIO

PYR-A-LARM



NUCLEAR ENERGY takes over the FIRE WATCH!

SEND FOR FREE LITERATURE

PyroTronics

A DIVISION OF BAKER INDUSTRIES, INC.

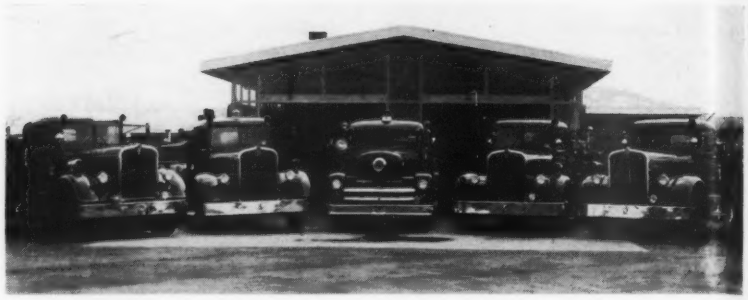
POST OFFICE BOX 390, NEWARK, N. J.

Spokane Valley Fire Department

The Valley Fire Department, Spokane, Wash., or as it is officially named, "Spokane Fire Protection District No. 1," began with an idea in the minds of many civic-minded citizens, among them Thomas R. Toole and, Thomas H. Bienz, and developed with the help and sponsorship of the Valley Chamber of Commerce, the Oranges and Community Clubs of the Spokane Valley.

Mr. Toole and Mr. Bienz devoted more than their time and effort to the legislative structure of the department. Without their effort, the status of fire protection districts in the State of Washington would be in doubt. Mr. Bienz, unofficially, is known as the "Father of Fire Protection Districts of the State of Washington."

James R. Bittle, a retired captain of the Los Angeles County Fire Department was the first chief and policies now established were the results of his foresight and fire fighting experience. At present, Chief L. Schucker is in command of the department.



Some of the Spokane Valley equipment lined up in front of Station No. 5. Recent improvements and expansion of the department has resulted in a better classification of the district with consequent insurance benefits to the residents—*Photo by Jack Cunningham*

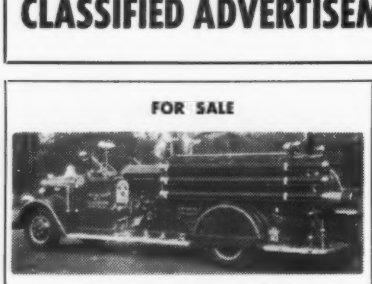
To begin with, the department needed a station. Harry Beck of Greenacres, constructed the first station in the Valley and rented the building to the district. The

Continued on page 76

CLASSIFIED ADVERTISEMENTS

Rate $12 per column inch, less 10% for three or more consecutive insertions. Closing date for copy, 25th of month preceding date of issue.
Address FIRE ENGINEERING, 305 East 45th Street, New York 17, N. Y.

FOR SALE



1951—47-T Ward LaFrance
TRIPLE COMBINATION FIRE ENGINE
Fully equipped and guaranteed to pass Underwriters performance tests. Mechanically perfect.
POMPTON FALLS VOL. FIRE CO. NO. 3
JACKSON AVE., WAYNE, NEW JERSEY

FOR SALE
1—1936 Seagrave-500 gallon pumper.
Fully equipped except for hose.
Including 100 gallon booster tank.
300 feet of booster hose.
Must be seen to be appreciated.
Contact:
MR. WILLIAM H. WHALEN, JR.
Captain—Independent Fire Co.
Mount Kisco, New York

WANTED: TROUBLE
Presently employed as Assistant Chief in charge of Fire Prevention and Administrative Assistant to Fire Chief at Dhahran Airfield, Saudi Arabia. Desire position as Chief of Department in Fire Department that is in sad and neglected shape. Am at present producing weekly 30 minute Television Show; make at least two public talks weekly and work with people speaking three languages (English, Italian and Arabic). Prefer City Manager type of government. Money not near as important as the challenge that position offers, but one must survive. Am 30 years old, will be available on or after 15 July 1958, have been in Fire Protection since 1944. Have attended numerous Navy Fire Service Schools, Oklahoma A & M School of Fire Protection and periodically attend the Fire Department Instructors Conference at Memphis. Am member of N. F. P. A. and I. A. F. C. Have had experience in public relations and journalism with the World's Largest Volunteer Rescue Squad. Will be available for interrogation at Memphis during F. D. I. C. in February 1958. Would also consider position of Assistant to City Manager. Am single; good health; have helmet—will travel. Prefer Municipal or County Government over Industrial or Federal Fire Service.
Asst. Chief A. R. Always
Fire Department
APO 616
New York, N. Y.

USED SIRENS—6 or 12 volts
Sireno Model M-1 ..... $30.00
Federal's Fireball Light $35.00
Model R-5-R Sireno $60.00
Beacon Ray Lights $60.00
(All equipment guaranteed for two years)
Convert
your six volt sirens to twelve volts
Trade your old
sirens in on Leading brands of new sirens, and Beacon Ray Lights.
For information write:
EDWIN R. JENNY
2024 Heitman Street
Fort Myers, Fla.

FIRE PARTY HEADQUARTERS
OUR PARTY SPECIALTIES ARE PERFECT FOR YOUR NEXT BANQUET OR CONVENTION
Heavy Coasters depicting 4 Antique Rigs in Color, 12 Doz. $4.00 Ppd. Matching Cocktail Napkins, Box of 100 $2.25 Ppd. Large 4 Rig Place Mats, 50 mats $1.50; 100 Mats $2.75 Ppd. Place Cards with Ass't Rigs, 3 Doz. $1.00 100 Cards $2.25. We will imprint your name or Organization for $1.00 per 100 Extra. Gift Wrapped Free.
SPECIAL DISCOUNTS ON LARGE ORDERS
HOBBY MATS
BOX 145 DEPT. F BALSAM LAKE, WISC.

POSITION WANTED
Fire Protection Engineer desires position as engineer or technician with an industrial or commercial concern. Fourteen (14) years experience in firefighting, protection and prevention field. Former Fire Protection Engineer for an overseas USAF Command for two (2) years. Fire Chief for over seven (7) years at two different locations. Awarded highest USAF civilian service award for outstanding work in Fire Prevention. Thirty-two years of age and married. Willing to travel occasionally if necessary. Present duty is Director of Firefighting School for major USAF overseas Command. Excellent references.
BOX 380
FIRE ENGINEERING
305 East 45th Street
New York 17, N. Y.

FOR SALE
AMBULANCE & PARTS
1949 Cadillac Combination $395
1948 Buick—Fully Equipt $325
1942 Ford, 20,000 miles—Fully Equipt $195
Used cots, stretchers, sirens, Mars lights, attendant chairs, etc. Wrecking 46 Buick, 48 Cadillac, 50 Packard for parts. Will trade any of above for what you have.
GENE MATLACK
RFD #2 — Narvon, Pa. Honeybrook 3-5446

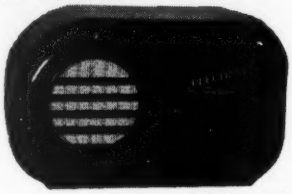
HELP WANTED
Representative—Large Manufacturer of Municipal Fire Hose offers attractive proposition for its complete line of Municipal Fire Hose; experienced individual or established Fire Equipment Distributor preferred. Give full particulars —all responses held confidential.
Box 370
FIRE ENGINEERING
305 East 45th St.
New York 17, N. Y.

PART TIME SALESMEN WANTED
Sell the finest fire alarm systems for homes or commercial places in your spare time. The demand for alarm systems is tremendous today. For free profit facts and product information write today.
FIRE-LITE ALARMS, INC.
192G Fulton Terrace
New Haven 2, Conn.

WANTED REPRESENTATIVE
States of Ohio, Michigan, Upper Michigan and Wisconsin are available for representative of line of Fire Trucks and Fire Hose by Midwestern manufacturer. Reply to
BOX 385
FIRE ENGINEERING
305 E. 45th St.
New York 17, N. Y.

WANT TO MAKE BIG MONEY?
If your answer is "yes," then look into Midget Presto Fire Extinguishers. They make big profits for retired, part-time firemen and full-time salesmen, too. Lightweight, does job of bulky extinguishers costing much more—faster. Easy sales await you in homes, factories, stores, offices, boats, autos—full or spare time. Write for Free details, no obligation.
MERLITE INDUSTRIES, INC., DEPT. P-144E
114 E. 32nd St., New York 16, N. Y.

PLECTRON
Fyrcall
CRYSTAL CONTROLLED



TONE ACTIVATED

High Frequency Radio Receiver
THE MODERN ALARM

- Buy a Fyrcall for each fireman. Send spoken alarm & instructions.
- Use present police or fire transmitter to send alarms.
- Receives only messages preceded by a tone. (1000 to 3000 cps available.)
- Manual reset button.
- Crystal frequency control.
- High volume to 3 miles with no outside antenna. Volume control on back.
- Low cost. Low power consumption. 6 tubes & rectifier. 27 Watts.

Please Write to
PLECTRON CORPORATION
Overton, Nebraska

ATTENTION
CHIEFS
COIN
CARDS
Ideal for your
FUND RAISING
CAMPAIGN
—●—
TRIED AND PROVEN
BY THOUSANDS
OF CUSTOMERS
—●—
Write or phone for information
Handford Brown Company
COYTESVILLE, N. J.
Phone Windsor 4-0454

Book Shelf

FIRE PROTECTION YEAR BOOK 1958—*the 18th edition. Published by Benn Brothers Ltd., Bouverie House, 154 Fleet Street, London EC 4, England, who also publish the monthly journal FIRE PROTECTION REVIEW.*

A comprehensive directory of all the public fire brigades and salvage corps in the British Isles; also data on industrial and private fire brigades; overseas fire services; civil defense authorities; government departments and public authorities concerned with fire prevention and associations and institutions interested in fire fighting and prevention. The 1958 year book contains 472 pages; 8 sections together with index, and directories.

HANDBOOK OF RIGGING, *By W. E. Rossnagel, Safety Engineer, Consolidated Edison Company, New York. Published by McGraw-Hill Book Company Inc., 330 West 42nd Street, New York 36, N. Y.*

The author, widely known fire protection engineer and a long-time contributor to FIRE ENGINEERING, has prepared a thorough, practical manual of rigging practices and pointers for fire fighters, rescue workers, first aiders and others. Included in its 342 pages and 23 chapters are simple formulas for calculating strength of hoisting tackle, beams, posts, etc.; data on safe loads on wire rope and chain; codes, laws and standards relating to rigging; hoist signals; safety practices; first aid, etc. A valuable reference work for every fire and rescue library. □□

LAFD Fires Increase

Fires in Los Angeles increased by 2531 during the fiscal year ending June 30, 1957, says the Los Angeles Fire Department's annual report.

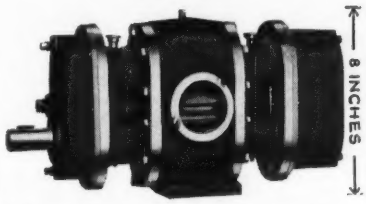
Although the increase was the first for the four years prior to the report, Chief Engineer William L. Miller said the upswing had little effect upon the department's fight against dollar loss because most of the increase was due to brush and grass fires where no actual property values were effected.

Chief Miller said the department took delivery of 21 pieces of heavy fire apparatus, plus 41 other vehicles during the year. Moreover two new fire stations were completed, a materials testing laboratory was installed and progress made toward a new type box-telephone street alarm system in the San Pedro-Wilmington area.

The Los Angeles Fire Department responded to 31,925 alarms during the fiscal year and its record in keeping losses low is more remarkable when it is realized that the city's population is increasing from between 60 to 70,000 people annually.

Paul C. Ditzel

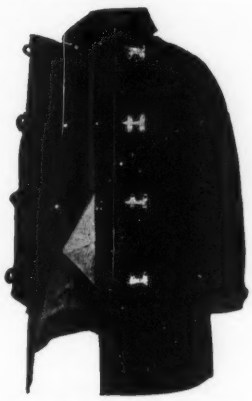
DO YOU KNOW
more and more
Chiefs Specify the
LEONARD
Rotary Gear
PUMP



- to reduce Department costs,
- for quickest possible attack,
- because the Leonard Pump can run continuously with NO Maintenance!

ASK the Chief who uses one
ASK your local dealer, or
WRITE the manufacturer
POTTER-HORN INC.
936 Statler Bldg., Boston 16, Mass.

BODY-GUARD
BUNKER SUITS
FOR COMFORT & PROTECTION



WE ARE DISTRIBUTORS FOR
SIREN BOOTS
We have been supplying FIREMEN'S CLOTHING for over 36 years.
Any fireman can have a catalog by writing—
BODY-GUARD
MANUFACTURING CO.
ST. JOSEPH - - - - MISSOURI

Continued from page 74

first piece of apparatus, Engine 3, was placed in service on December 6, 1940. Two men were hired to act as drivers and were assisted by part-time volunteers. Inasmuch as the truck was unable to cope with all the fires reported, volunteers manned the other two trucks, Engine 1 and 2, and all three pieces of equipment operated out of the Greenacres station.

Engine 2 was placed in its own station on May 29, 1941, at North 2904 Park Road, its present location. It soon became evident that the fires were so numerous and the volunteers too few in number. The status of the department was changed shortly afterward to a fully paid fire protection district.

It wasn't until August 1, 1944, that Station 4 at East 22400 Wellesley, was constructed and the fire district was rated in Class 8 fire protection. Engine 3 was relocated to 202 Greenacres Road, its present location on October 3, 1946. Engine 1 was relocated on April 1, 1947, in back of the Opportunity Grade School, and this being a temporary station, was again moved to its present location, East 10300 Sprague, on July 2, 1947.

To keep up with the growth and valuation of the Valley, Fire Station 5 was built November 1, 1954, at Broadway and Sullivan Road. This station incorporates the latest features of modern fire station construction.

Because the population has increased from approximately 12,500 in 1940 to approximately 40,000 at the present time, it seems that more service to the taxpayers is in order to lower the insurance rate in the Spokane Valley.

Even now, changes are being made to keep up with the new and ever enlarging industries and the new houses continually being built. Station 3 was moved to a new building on the corner of Michigan Avenue and the Appleway in Greenacres. Because of these changes and additions in the fire department, the fire district was promoted from Class 8 to Class 7 fire insurance district. This will mean a savings of better than $200,000 in insurance rate reductions to the people of the Valley. □□

THE FIRST CALL...

Will prove its Value!

All compartments open from inside or outside for fast accessibility . . . custom designed to fit your truck!

Sharpsville

STEEL FABRICATORS, Inc.

SHARPSVILLE, PA.

BUILDERS OF SERVICE, CRASH AND LADDER TRUCKS • VOLUME AND HIGH-PRESSURE PUMPERS • SQUAD AND EMERGENCY CARS • STORAGE TANKS

RESCUE

Continued from page 39

as downtown workers headed home for the day and other persons traveled into the "Golden Triangle" for the regular Monday evening shopping hours. Police Superintendent James Slusser banned all traffic in the area to prevent a spark from touching off an explosion that might have been fatal to hundreds. The resulting traffic jam was probably the worst in Pittsburgh's history. Nevertheless, it did not prevent emergency vehicles from getting the eight gas victims to nearby hospitals.

Fireman J. Howard McAdams, 45, one of the men overcome in the manhole, was not breathing when he was rescued, but was revived by the use of a Pneolator. Then he was rushed to a hospital with Assistant Police Superintendent Lawrence J. Maloney and Patrolman William Siebert continuing to use the Pneolator on him. Patrolman John Taylor piloted the ambulance through the incredible traffic tie-up. Police stationed at every corner helped the ambulance get through. The other victims were treated in the same manner and all responded almost immediately except Mr. Colosimo, who had been in the hole longer. □□

Publications Received

FIRE STREAM PRACTICES, Unit V of the Fire Training Series, published by the Fire Protection Department, Oklahoma A & M College, Stillwater, Okla. This is a revision of the third edition. Price $1.50.

THE MALIBU FIRES, A report of the forest and brush fires in Los Angeles and Ventura Counties, Cal., during December 26-30, 1956. Prepared jointly by the National Board of Fire Underwriters and the Board of Fire Underwriters of the Pacific. Includes a description of the terrain, the methods of suppression employed, and the conclusions and recommendations. Published by the National Board of Fire Underwriters, 85 John Street, New York 38, N. Y.

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

EDITORIAL INDEX FOR 1957

Volume 110, January to December 1957 Inclusive

ADMINISTRATION

Capsule Account of Department Strength 142
Fire Chief Looks at Preventive Maintenance 775
Fire Commissioner Views His Job ... 616

AMONG THE BUFFS

57, 156, 242, 356, 453, 566, 634, 840, 956, 1052, 1142, 1220

ANNUAL REPORTS

Association of American Railroads ... 80
Atlantic City, N. J. 266
Charlotte, N. C. 81
Chicago, Ill. 266
Clifton, N. J. 80
Everett, Wash. 80
Hayward, Calif. 81
Leicester, U. K. 80
Manila Fire Prevention 80
Manila, P. I. 266
Melbourne, Australia 266
New Haven, Conn. 80
New York City 945
Oakland, Calif. 266
Oregon State 80
Springfield, Ohio 266

APPARATUS

Bible Hill, N. S., Pumper-Tanker 438
Gas Turbine Pump for Fire Fighting .. 823
Huntington Beach, Calif., Pumper ... 46
Log of the Nation's Fireboat Fleet..758, 938
Memphis Improves Water Tower 337
Mobile Foam Equipment for Refineries. 802
New York Contracts for Fireboats ... 144
New York Plans Helicopter 352
New York "Ups" Ladder Length 882
Omaha, Neb., Iron Lung Emergency Kit 439
Pittsburgh Has New Fireboat 436
Roselle, Ill., Emergency Rescue Unit .. 438
Saga of the Steamer 537
St. Johnsville, N. Y., Pumper Resents Retirement 479
Springfield, Mo., Has Big Tanker 180
Unusual Pumper in Laurel, Md. 146
What Fire Chiefs Prefer in Apparatus Design 762

APPARATUS ACCIDENTS

Better Traffic Control 792
Burbank, Calif., Aerial Cut in Two ... 574
California Chiefs in Accident 355
East Bridgewater, Mass., Chief Dies in Crash 1228
Los Angeles, Calif., Ladder Loaned to Burbank 581
New York Thruway Fire Rig Wrecked. 481
Rockledge, Pa., Aerial Ladder Destroyed 945
Washington, D. C., Traffic Mishaps .. 435

APPOINTMENTS AND PROMOTIONS

Bahme, C. W., Deputy Chief, Los Angeles, Calif. 354
Blowers, J. E., Assistant Manager, New York Rating Organization 1058
Bowen, J. W., and Conkling, E. C., Named to New Orleans Fire Advisory Committee 853
Brush, E. P., Fire Marshal, Columbus, Ohio 473
Canty, W. J., President, Connecticut State Firemen's Association 970
Coon, H. J., Chief, Syracuse, N. Y. ... 969
Daley, R. J., Chief Fire Marshal, Chicago, Ill. 472
Desjardines, Lt.-Col., E., Heads Arson Investigators 647
Dorfer, J. C., Chairman FCC 852
Easterly, C. A., Chief, Martinsville, Va. 175
Ferber, J. C., Chief, Greenfield Hill, Conn. 647
Fletchner, N. A., Chief, Fitchburg, Mass. 70
Flynn, P. R., Chief, Duluth, Minn. ... 472
Ford, F. W., Nominated to FCC 852
Ford, L. M., President, Fairfield Plan .. 568
Gilbert, A. J., Chief, San Jose, Calif.. 246
Guenther, P. B., Assistant Manager, New York Rating Organization ... 1058
Hayden, R. C., Assistant Manager, New York Rating Organization ... 1058
Heidner, T. W., Chief, Pasadena, Calif. 851
Hoegh, L. A., CD Administrator 853
Kenster, T., Chief, Buena Park, Calif. . 70
Kress, Battalion Chief R. E., Drillmaster, Philadelphia, Pa. 246
Leggat, A. W., Chief, Named to N. Y. Advisory Board 354
Lund, J., Chief, Stow, Mass. 853
Meyers, A. J., Chief, Grand Rapids, Mich. 1229
Miller, K. W., Conelrad Chief 175
Moller, C. W., Chief, Berkeley, Calif. . 1058
Moody, J. J., Fire Marshal, St. Louis County, Mo. 851
Moser, B., with Indiana State Fire Marshal 853
Mullaney, A. J., Now Fire Consultant . 569
Quinn, R. J., Commissioner, Chicago, Ill. 175
Richardson, J. N., Chief, Beaumont, Texas 176
Smith, R. B., Joins U. of Md. Staff ... 970
Tanguay, A. L., Chief, Nashua, N. H. . 246
Ward, D. B., Chief, Muskegon, Mich. . 645
Warner, N., Chief, Inglewood, Calif. . 568
Westcott, E. J., Chief, Huntsville, Mo. . 70

ARSON

Albany, N. Y., Arsonist Hunted 649
Arson Investigators' Headaches 1159
Boston, Mass., Has New Trial in Arson Case 803
Cincinnati, Ohio, Angry Suitor Charged with Arson 146
Fall River, Mass., Arson Plot Foiled .. 443
Mansfield, Tex., Youths Recruited to Set Fires 1085
New York City Arson Record? 1236
U. of Idaho Student Convicted of Dorm Fire 438
West Brighton, N. Y., Firemen Face Arson Charge 571
Wichita Falls, Kans., Student Held as Firebug 164

ASSOCIATION NEWS

California Arson and Fire Investigation Seminar 946
Canadian Fire Marshals Meet with Underwriters 847
Connecticut Drillmasters Field Day ... 644
Connecticut Fire Officers Conference .. 452
F.D.I.C. Held 230
F.D.I.C. Program Set 1242
I.A.F.C. Board of Directors Meets ... 141
I.A.F.C. Conference Exhibitors 859
I.A.F.C. Conference Report 1028
I.A.F.C. Conference Program 806
I.A.F.C. Moves to New Office 245
I.A.F.C. Officers and Directors 804
I.A.F.C. to Meet in New Orleans 339
International Rescue and First Aid Association to Meet 946
Iowa Arson School 437
Louisiana Arson Conference 435
Massachusetts Chiefs Hold Conference 144
Missouri Valley Association Meets .. 1158
NBFU Annual Meeting 646
NFPA Meets 623, 646
New England Association Meets 622
New England Conference Committees . 1151
New England Division, I.A.F.C. Meets. 623
New Jersey Chiefs Elect Officers 247
New York Chiefs Meet 653
New York State Coordinators Conference 653
New York State Instructors Conference 249
Northwest Arson Institute 438
Pacific Coast Chiefs Meet 799
Purdue Arson Seminar Announced ... 245
Southeastern Association of Fire Chiefs Elects 844
Suffolk County, N. Y., Conference ... 249
U.S.A.F. Fire Protection and Aircraft Rescue Conference Held 137
Virginia Firemen's School 371

ATOMIC ENERGY

AEC to Train Fire Instructors 143
Boston, Mass., Launches Radiological Program 1128

CHEMICALS

Aircraft Fuels Sought 142
Anti-Smog Gasoline 437
Atom Fuel for Aircraft 370
Atom Pearls Dangerous 1127
Bizarre Blast Burns Youth 446
Chemical Terminology in Fire Protection 423
Fire Cracker "Candy" Burns Boy 436
Hazardous Metals 948
Increasing Use of Hazardous Metals .. 796
Mixing of Ammonia and Hypochlorite Bleach not Compatible 637
Petroleum Products Go Underground .. 439
Snake Matches a Hazard 79
Theory and Application of Wet Water 790, 1208

CHURCH FIRES

Churches Installing Fire Detection Systems 543
New York, N. Y., Church Fires Penalty Raised 635

CIVIL DEFENSE

Airborne Emergency Sound System ... 437
Cabinet Status to be Asked 243

CD Aides Tax Deduction 72
CD Helmets Flammable 450
Committee to Study Civil Defense 365
Fire Fighters Go "Piggyback" 1036
Houston, Tex., CD Fire Department .. 339
Warning System 639
Week Long Drill Scheduled 359

COMMUNICATIONS

Alarm Frequencies Requested 975
Chicago Has Flexible Radio System .. 1202
Conelrad Suggested for Storm Warnings 144
Connecticut Bill to Curb Bomb False Alarms 469
Connecticut Firemen Would Curb Party Line 355
County Plans Central Fire Alarm System 554
Cumberland County, Pa., Protests FCC License to LeMoyne 258
Delay News Reports as Safety Measure 159
Duluth, Minn., Hogs Phone—House Burns 340
FCC Denies Burglar/Fire Alarm Service 144
FCC Splits Low Channels 1241
Fighting Fire with Microfilm 47
Monitor Radio Sets to Call Westport Firemen 1080
New Haven Installs Emergency Phone System 186
New York Conducts Radio Drills 142
Party Line Bill Introduced in Connecticut Legislature 187
Patented Fire Alarm Booth 69
Proposed FCC Rule 1081
Radar Equipment Serves Fireboats ... 146
Radio Fire Alarm Box 443
Sound System Links West Orange Stations 1039
Telephone Service Restored 141

CONFERENCES AND SCHOOLS

73, 160, 262, 360, 456, 458, 572, 575, 643, 648, 849, 850, 961, 969, 1064, 1159, 1241, 1242

CORRECTIONS

Chemical Terminology 554
Harlem, N. Y. C., Alarm Response ... 1081
Lt. William Doyle Instead of "Fireman" 948
Photograph Acknowledgement 437, 1157, 1242

COVER PHOTOGRAPHS

Boston, Mass., Three-Horse Hitch 485
Bridgeport, Conn., General Alarm Fire 593
Brooklyn, N. Y., Pier Fire 1
Cambridge, Md., Rescue Fire Company Christmas Decorations 1165
Chicago, Ill., City Hall Fire 385
Cincinnati, Ohio, City Hall Fire 1089
Harlem, N. Y., Holocaust 661
Hartford, Conn., Church Fire 85
Kobuta, Pa., Koppers' Plant Fire 981
Memphis, Tenn., "Big Bertha" Tower . 277
Valleyfield, Que., Fire-Police Combat Conflagration 193
Venice, Ohio, Fatal Tanker Fire 905

DETECTION AND EXTINGUISHMENT SYSTEMS

Better Sell Automatics 800
Churches Installing Fire Detection Systems 543
"The Burned Building Had No Sprinklers" 794

DOCK FIRES

Dock Fire Record Tragic 874
Luckenbach Explosion Report 563

EDITORIALS

A Calamity and a Disgrace 127
Concentration-Coordination-Cooperation 31
Driver Liability 219
Fire Communications—Asset or Liability 419
Fire Service Day 611
Getting to the Heart of It at Last? ... 931
Modernization—Mechanization—Automation 527
Progress Reported—But So Much to Be Done 757
Prospect and Retrospect 1197
Rx for Fire Prevention 1023
The Spigot and the Bung 319
Top Level Training—A Must! 1115

EXTINGUISHING AGENTS

Airborne Chemical Attack 36, 180
Hazardous Metal Poses New Extinguishing Problems 796
New Extinguisher Chemical 142
North Dakota Bans Certain Extinguishing Agents 977
Theory and Application of Wet Water 790, 1208
U. S. Navy Introduces TMB and Foam Compatible Dry Chemical 336

EXTINGUISHMENT SYSTEMS (See Detection and Extinguishment Systems)

FALSE ALARMS

54, 154, 240, 346, 444, 556, 630, 838, 954, 1050, 1134, 1218

FIRE ALARM TELEGRAPH
(See Communications)

FIRE DEPARTMENT NEWS

Anoka, Minn., Reaches Century Mark . 1042
Briarcliff Manor, N. Y., Scholarship Award 355, 1081
Burlingame, Kans., Fire Departments . 1205
Cincinnati Promotions 969
Denton, Md., Vamps Sponsor Youth Center 438
Freeport, N. Y., Plans for Safe 4th of July 578
Garrettford-Drexel Hill, Pa., Golden Anniversary 243
Kathmandu, Nepal, Fire Brigade 430
Los Angeles, Calif., Mountain Patrol Insignia 439
New York Awards Medals 653
New York Deputy List 340
New York Fire Chief Test 79
San Jose, Calif., Firemen Hold Rodeo . 340
Westport, Conn., Correct Address Campaign 39

FIRE LOSSES

April 558
August 1085
Dock Fire Record Tragic 874
February 352
January 273
July 948
June 945
March 435
May 644
Monthly 67, 161, 255, 348, 448, 579, 636, 843, 958, 1060, 1143, 1222
NBFU Large Loss Fire Statistics 1042
New York State Forest Losses 72
November 59
October 1213
September 1127
1956 Fire Losses Up 11.8 Per Cent ... 153

FIRE PREVENTION

Children's Fire Safety Award Nominations 189
Cincinnati, Ohio, War on Hazardous Gas Heaters 140
Disney Safety Film Award Available . 181
Fire Retardant Paints 824
Milwaukee TV Fire Prevention 143
NBFU Film Wins Award 578
NBFU Fire Prevention Code 159
Port Angeles, Wash., Wins Award ... 1077
Protecting Boy Scout Jamboree Against Fire 828
Safety for Hospitals' Patients 1120
Seattle, Wash., Telephone Campaign . 935
Toledo, Ohio, Home Fire Prevention Manual 438

FIRE REPORTS

Asbury Park, N. J., Hotel Fire 533
Atlantic City, N. J., Hotel Fire 533
Auburn, Maine, Armory Fire 40
Belpre, Ohio, Apartment House Fire . 1212
Boston, Mass., Church Fires 128
Bridgeport, Conn., Fuel Oil Tank Fire . 157
Bridgeport, Conn., General Alarm Fire 615
Bridgeport, Conn., Railroad Car Fire .. 1056
Brooklyn, N. Y., Burning Oil Truck Stopped by Fire Truck 143
Brooklyn, N. Y., Pier Fire 32, 563
Butler, N. J., Rubber Fire 420

Charlestown, W. Va., Feed Mill Blaze . 943
Chatham, N. J., Residence Fire 1245
Chicago, Ill., City Hall Blaze 426
Chicago, Ill., Nitrocellulose Blast 948
Chicago, Ill., Three Fire Fighters Killed 339
Cincinnati, Ohio, City Hall Fire 1116
Clifton, N. J., Boy Scout Training Pays Off 437
Colorado Springs, Colo., General Alarm Fire 330
Council Bluffs, Iowa, Prefabricated Dwelling Fire 436
Council Bluffs, Iowa, Nursing Home Holocaust 320

Dearborn, Mich., Ford Motor Co. Plant Fire 338
East Coast Forest Fires 544
Egypt, Ill., Has Busy Weekend 481
Ft. Worth, Tex., Warehouse Fire 1211
Gardner, Pa., Tree Sprayer Saves Barn 860
Grand Rapids, Mich., Boat Yard Fire . 434
Harrisburg, Pa., Warehouse Fire 432
Hartford, Conn., Church Fires 128

Jersey City, N. J., Processing Plant Blast 1024
Las Vegas, Nev., Casino Fire 165
Long Beach, N. J., Residence Fire ... 1213
Los Angeles, Calif., Crash of DC-7 and F-89 340
Los Angeles, Calif., Pipeline Break 371
Mamaroneck, N. Y., Lumber Yard; Fatal Residence; Restaurant 1198
Memphis, Tenn., Corn Cob Fire 228
Monaca, Pa., Koppers' Kobuta Plant Blast 1038

Newark, N. J., Residences Fire 1213
Newhall, Calif., Freak Weather Averts Disaster 371
New Haven, Conn., Fatal Factory Fire. 224
New York, Helicopter Ferries Firemen to Fire 875
New York Magnesium Shavings Fire . 548

New York Second-Alarm Subway Fire. 1040
New York Simultaneous Fires 776
New York High Fire Simple Hydraulic Problem 1132
New York State's Most Threatening Area Fire 1122
Niagara Falls, N. Y., Tenement House Fire 1212
Ottawa, Ont., F. D. Answers 23 Alarms in 21 Hours 234

Peru Highway Holocaust 187
Philadelphia, Pa., Short Circuit Blamed for 4-Alarm Fire 554
Phoenix, Ariz., Firemen Hurt by Hose . 333
Reno, Nev., Blasts Destroy City Block . 948
San Diego, Calif., Forest Fire 36
San Francisco, Calif., Earthquake Keeps Fire Fighters Busy 548
Sorel, Que., Hotel Fire 221
Upper Darby, Pa., Bank Fire 937

Valleyfield, Que., Conflagration 220
Venice, Ohio, Tanker Fire 932
Walla Walla, Wash., Death From TV Antenna 1085
Warrenton, Mo., Nursing Home Disaster 321
Washington, D. C., Multiple Alarm Fires 618
Washington, D. C., Traffic Mishaps at Multiple-Alarmer 435

FIRE STATIONS

Albuquerque, N. M., Headquarters .. 783
Baltimore, Md., Fire Training School .. 768
Hayward, Calif. 140
Manhasset-Lakeville, N. Y. 222
New York Hotel Will House Fire Station 1066
Reading, Mass., Station Preserves Antiques 1080

FIRST AID AND RESCUE

Chicago, Ill., Fireman Net Diver 1221
Chicago, Ill., First Aid Training Program 357
Fire Department Ambulance Services . 528
Heads Win-Lungs Lose 535
Life Nets Used in Fairbanks, Alaska, Fire 144
Los Angeles, Calif., Squad "Powers" Stork 1042
More Masks for New York 581
Racine, Wis., Fireman Cited For Heroism 439
Rescue of Long Island Boy 532

FOREST FIRES

Airborne Chemical Attack 36, 180
East Coast Forest Fires 544
Grand Jury Hits Forest Neglect 882
New York State Forest Losses 72
Supreme Court Rules Against U. S. in Forest Fire Suit 435

HIGHWAY PROTECTION

Connecticut Turnpike Protection 1241

HISTORICAL

Babylon, L. I., Anniversary Brochure . 576
Can't Insure Old Fire Engine 642
Fort Benning, Ga., Chiefs Originate Museum 481
Log of the Nation's Fireboat Fleet 758, 938
National Fire Museum in Operation .. 443
New Orleans Fire Department Rich in Tradition 771
Saga of the Steamer 536

HONORS AND AWARDS

Bouchon, H. L., Captain, New Orleans, La., Publishes Novel 264
Braidech, M. M., NBFU, Awarded Lamme Medal 645
Cardoulis, J. N., USAF Fire Prevention Engineer Decorated 176
Cranford, Perrin, Chief, Conroe, Tex., Honored 354
Edwards, T. B., Research Laboratories Engineer Honored 568
Lamp, Fred, Captain, Conroe, Tex., Honored 354
Marsh, A. McC., Chief, 50 Years, Columbia, S. C. 1059
Pierce, W. H., Oldest Active Fire Fighter in N. J. 646
Sifritt, O. A., Chief, 50 Years, Marion, Ohio 852
Swanson, W., Chief, Has "Day" in Rockford, Ill. 232

HOSPITALS

Cooperation Leads to Safety 1120
Disposable Diaper Hazard 455

INDUSTRIAL FIRE PROTECTION

Armstrong Cork Training-by-Doing .. 1126
Fire Scooter Protects Industrial Plant . 462
Mobile Foam Equipment for Refinery and Chemical Fires 802
Putting More Power into Plant Fire Protection 326

INSPECTIONS

Volunteer Field Inspections 324

INSURANCE

Church Loses Insurance Suit 1213
New York State Low Insurance Rate Approved 1149

INTEGRATION OF FIRE AND POLICE

Consolidated Police and Fire Departments 132
How Gardner, Mass., Firemen "Waste Their Time" 133
Integration Experiment 548
Integration Fact Book 1243
Integration Footnote 1213
Reduced Work Week Excuse for Integration 1233
Westchester County Volunteers Fear Integration 455

LEGAL

Bristol, Pa., Apparatus Driver Arrested for Running Red Light 268
California Standardizes Hose Coupling Threads 1074
Connecticut Bill to Curb Bomb False Alarms 469
Connecticut Firemen Would Curb Party Line 355
Connecticut Nursing Home Regulations 1079
Milwaukee, Wis., Fireman's Suspension Upheld 438
Missouri Nursing Home Fire Report ... 946
Montana Has 40-Hour Law 635
New York Church Fires Penalty Raised 635
New York Large "Eligible-for-Retirement" List 866
New York Settles Crash Suit 459
New York's Waldorf-Astoria Fined $50 946
New York State Blue Lights for Fire Service 849
New York State Non-Landowners OK'd as Chiefs 439
New York State School Fire Claims Approved 960
New York State Shorter Hours, Longer Vacation Laws 554
New York State Vehicle Law Change Recommended 141
North Dakota Bans Extinguishing Agents 977
Ohio Fire Marshal Law Upheld by Supreme Court 264
Pleasant Valley, N. Y., Chief Arrested for Speeding; Charge Dismissed . 78, 436
Rochester, N. Y., Fireman Loses Suit .. 1060
San Bernardino, Calif., Grand Jury Hits Forest Neglect 882
Stratford, Conn., Chief Upheld 543
Supreme Court Rules Against U. S. in Forest Fire Suit 435
Tennessee Mutual Aid Law 803
Texas City Settlement 173
Walla Walla, Wash., College Sued Following Fire 1064

LETTERS TO THE EDITOR

Advertising Saves a Life 367
Bouquets 446
Church Data Rings More Bells 446
Church Editorial Acclaimed 366
CD Directors Approve 1158
Converted Gasoline Tanker 178
Demolition of Buildings 177
Fire Service Progress 178
First CD Fire Station 179
It Did Happen Here 368
Toledo Weighs Man Shortage 178
Vamping the Vamps 177

MAINTENANCE

A Fire Chief Looks at Preventive Maintenance 775
California Standardizes Hose Coupling Threads 1074
Fire Hose Recoupling 42
Navy Practices Standardization 620
New York City Supervising Engineer Units 780, 1032

MANUFACTURERS' NEWS

49, 148, 238, 342, 440, 551, 626, 832, 950, 1046, 1130, 1214

MASKS (See Respiratory Protective Equipment)

NURSING HOMES

Connecticut Nursing Home Regulations 1079
Missouri Nursing Home Fire Report .. 946

OBITUARIES

Alger, F. B., Seagrave Corp. Representative 185
Barbour, R. P., Past President NBFU .. 63
Barrodale, B. J., Secretary-Treasurer, SEAFC 897
Berger, A. R., Former Chief, Georgetown, Conn. 1228
Boland, W. J., Division Chief, Buffalo, N. Y. 273
Bond, L., Chief, Brookfield, Mo. 353
Brayton, Col. H. R., Coordinator of Survival Research, Texas 273
Casey, D. J., Battalion Chief, Los Angeles, Calif. 642
Cleveland, D. E., Former Chief, Peekskill, N. Y. 1147
Cole, C. S., President, Fabric Fire Hose Co. 577
Corley, J. T., President, Baker Pattern Co. 353
Coyle, M. A., Chief, Fort Totten, N. Y. 578
Dammon, Emil C., Assistant Chief, Ann Arbor, Mich. 577
Espey, W. A., Chief, New York Fire Patrol 897
Fair, E. R., Chief, LeMoyne, Pa. 642
Gilroy, C. C., Special Agent, NBFU .. 185
Hallett, J. L., Former Chief, Norwell, Mass. 577
Hanlon, F. T., Commissioner, White Plains, N. Y. 1147
Healy, M. J., Sales Manager, Ardmore Products 185
Hennessey, M., Chief, East Bridgewater, Mass. 1228
Hennessey, W. F., Senior Electrical Engineer, FDNY 63
Husman, J., Former Vice President, ADT 1228
Huston, F., Former Chief, Ludlow, Ky. 273
Johnson, C. E., Retired Special Agent, NBFU 353
Johnson, Ess, Widow of Chief C. M. Johnson 475
Johnson, W. H., NBFU 897
Klomparens, A., Chief, Holland, Mich. 577
Layton, F. D., Past President, NBFU .. 63
Mabbatt, F. S., National Foam System Representative 185
Mallalieu, W. E., Former General Manager, NBFU 898
Maxim, E. L., Maxim Motor Co. 848
Murphy, F., Former Chief, New York City 62
Newton, R., Chief, Nichols Hills, Okla. 353
Pike, A. H., Arson Supervisor, NBFU .. 185

Schneider, A., Chief, West New York, N. J. 578
Spence, A., Chief, St. Boniface, Manitoba 353
Tamandl, N., Acme Protection Equipment Co. 642
Tatnall, George, NBFU 898
Tighe, W. A., Veteran Reporter, Boston, Mass. 475
Traeger, W. F., Pennsylvania State Fire Marshal 475
Watson, E. C., District Manager, American LaFrance 185
Williams, J. S., Chief, St. Louis Park, Minn. 642
Zale, J., Chief, Gary, Ind. 475

OPERATIONS—PROCEDURES

Confining Oil Spills in Ports and Harbors 227
Fighting Fire with Microfilm 47
Fire Service's New Helpmate—Reflectivity 778
Making Mechanization Do It 765
New York Fire Department Supervising Engineer Units 780, 1032
Progress in Master Stream Devices .. 784
Protecting Boy Scout Jamboree 828

PUBLICATION NOTICES

California Fire Training Program, Books 1 and 2 1243
Collection of Short Fire Stories 1243
Detroit, Mich., Disaster Manual 377
Fire Fighting Procedures 265
Fire in Cambridge 1243
Fire Prevention Yearbook 1243
Fire Protection for Chemicals 265
Fire Protection Yearbook 79
Industrial Ovens and Dryers 473
Integration Fact Book 1243
Iowa State College, 333 Questions and Answers 473
Manual for Pump Operators 1243
National Electrical Code 79
Occupancy Fire Records 265
Romance of Fire Fighting 79
Sabine-Neches, Tex., Mutual Aid Manual 267
Successful Supervision 265
Takoma Park, Md., Officer Training Guide 264
Tested Activities for Fire Prevention Committees 265
Underwriters Salvage Corps, Cincinnati 1243
Up the Ladder 267

PUBLIC RELATIONS

California Fire Service Day .. 469, 611, 612
Cambridge, Md., Public Service Program 1213

QUESTIONS AND ANSWERS

Action of CO_2 Extinguisher 1232
Booster Friction Loss 965
Branched 2½-Inch Lines 189
Branched 2½-Inch and 1½-Inch Lines 260
Cigarettes and Birds 1233
Class A Refrigeration 1233
Definition of Hazards 1148
Deluge Nozzle Equivalent to Hand Lines 189
Discharge from Hydrants 358
Discharge from Open Butt on Inclined Line 260
Downwind—Stake-Out—Watch Line . 1149
Drafting Hot Water 74
Drafting Water from Wells 474
Emptying an Elevated Tank 474
Exam Question on Back Pressure 574
Fire Chief's Drivers an Unnecessary Expense? 358
Fire Spread in Buildings 652
First Plane in Fire Fighting 474
Hazards of Collodion 1148
Hazards of Manganese 74
Higbee Cut on Hose Threads 652
Historic Theatre Fire Data 965
Hotel or Factory Hoist 964
Ignition Temperature of Gasoline 1148
Jumping into a Life Net 964
Meaning of "Jake" 847
Most Violent Gasoline Explosion (correction) 189
Multiple Choice Questions 1062
Origin of "Vamp" 1232
Placing Pumpers in Relay 846
Placing Second-Alarm Companies ... 1063
Plastic Fire Hose 1232
Position of Horn on Cap Badge 1062
Rate of Involvement 964
Siamesed 2½-Inch Lines 261
Spontaneous Ignition 358
Supplying Deluge Nozzles 358
Testing Demand Mask Tanks 573
Water in a Safe 847
Water Thief Problem 846
Wet Water Advantages 573

RADIO (See Communications)

RESPIRATORY PROTECTIVE EQUIPMENT

Heads Win—Lungs Lose 535
More Masks for New York 581

RESEARCH

Brooklyn, N. Y., Library Wants Bulletins, Catalogs 69
Illinois Fire Protection Survey 1067

RETIREMENTS

Arnold, J. H., Assistant Chief Engineer, NBFU 247
Augustine, W. H., Assistant Chief, Los Angeles, Calif. 851
Baker, Floyd, John Bean Fire Training School 853
Bargagni, A. J., Chief, Bethesda, Md. 473
Barry, L. J., Chief, Utica, N. Y. 176
Bilby, A. W., Chief, Montclair, N. J. . 1059
Blaski, E. L., Chief, Duluth, Minn. ... 472
Burns, F. H., Chief, Grand Rapids, Mich. 1229
Clarke, J. M., Deputy Commissioner, Philadelphia, Pa. 1229
Drouin, Z. F., Chief, Lewiston, Maine . 647
Flanagan, A. J., Drillmaster, New Haven, Conn. 246
Halligan, Hugh, Deputy Chief, New York 647
Houston, B. J., Chief, Cincinnati, Ohio 246
Loughlin, J. A., Chief, East Providence, R. I. 70
McCausland, H. J., Chief, Indio, Cal. . 176
Mendenhall, W. J., U. S. Forest Service 247
Mullaney, A. J., Commissioner, Chicago, Ill. 175
Zado, A., Chief, East Detroit, Mich. .. 853

ROUND TABLE

Hydrant Placement 52, 168
Issuing Summonses or Traffic Tickets 250, 372, 476
Ladders on Pumpers..... 582, 654, 894, 966, 1082
Sprinklers and Standpipe Procedures 1138, 1216

SALVAGE

Kansas City Underwriters Patrol Disbanded 369
Salvage and Overhaul Series 44, 134, 233, 334, 428, 546, 624, 944, 1044
Salvage in Cincinnati City Hall Fire .. 1118

SHORT CUTS AND GADGETS

Balloon Used in Rescue 974
Blowtorch Fires 50
Broadcasting Alarms 586
Ceiling Pipe 586
Charge of the Squirt Brigade 650
Charger Warning Sign 1244
Coffee Kit 462
Color Codes 124
Demand Mask 1161
Electric Hose Coiler 1161
Extinguisher Recharging Unit 381
Fire Alarm Machine 650
Fire Apparatus on Stilts 1079
Fire Prevention Blotter 974
Fire Scooter Protects Steel Plant 462
Firewoman Nurse 381
Folding Plywood Backboards for Transporting Patients 1078
Hose Compartment Ideas for Increased Storage 1078
Identifying Extinguisher Locations ... 124
Invalid Identification 236
Ladder Pipe Adaptation 974
Library Book Plate 463
Mask Disinfectant 236
New Use for Reflector Dots 381
Oldsters Guide Sidewalk Chiefs 124
Personalized Fire House Doors 50
Priming Failure Symptoms 1161
Proportioning System 1244
Publication Indexing System 974
Railroad Fire Detector 974
Ready-Mix Concrete Trucks as Tankers 236
Rear Step Safety Belt 50
Remote Control Doors 174
Removing Soot 1244
Roof Ventilators 1079
Rural Fire Department Report 236
Square Hole on Telephone Dial 650
Substitute Metal Polish 1079
Traveling Bill Boards Sell Fire Prevention 1244
Using Tanker in Relay 50
Water Hole for Cold Weather Areas . 236
Water Pipe Acts as Sprinkler 1245
Wrench for Worn Hydrant Valve Stems 50

SPRINKLERS (See Detection and Extinguishment Systems)

STANDARDIZATION

California Standardizes Hose Coupling Threads 1074
Navy Practices Standardization 620

TELEPHONE (See Communications)

TRAINING

Armstrong Cork Adopts Training-by-Doing 1126
AEC to Train Fire Instructors 143
Baltimore County Firemen Tour Aluminum Plant 848
Baltimore, Md., Fire School Dedicated 554
Boston, Mass., Launches Radiological Program 1128
California Fire Administration Institute Announced 946
Chicago, Ill., First Aid Training Program 357
FDIC Program Set 1242
Funds for Ontario Fire College Assured 1042
Maryland Scholarship Awards 1147
Montana Chiefs Workshop 1066
New York Fire College Sets up New Training Unit 1074
"Operation 95" at Great Lakes 540
Queens College, N. Y., Offers New Courses 245
Wisconsin Training Approved 1156

WATCH DESK

60, 166, 270, 378, 460, 564, 632, 854, 962, 1068, 1136, 1230

WATER SUPPLIES

Emergency Relay Relieves Altamont, N. Y., Water Shortage 332
Weston, Conn., Draft Points 48

WHATS BURNING?

67, 161, 255, 348, 448, 579, 636, 843, 958, 1060, 1143, 1222

WORKING CONDITIONS

Inoculations Given Greenwich, Conn., Firemen 146
Kansas City, Mo., Switches to 3-Platoon System 146
Milwaukee, Wis., Fireman Suspension Upheld 438
Montana Has 40-Hour Law 635
More Firemen—Higher Pay 59
New York Large "Eligible Retirement" List 866
New York State Shorter Hours, Longer Vacation Laws 554
Police-Fire Seesaw-New York City ... 463
Reduced Work Week Excuse for Fire-Police Integration 1233
Rochester, N. Y., Fireman Loses Injury Suit 1060
Stratford, Conn., Chief Upheld in Dispute 543
Uniform Allowance 63

WORLD WIDE FIRE NEWS

75, 158, 244, 350, 450, 587, 638, 968, 1057, 1150, 1225

AUTHORS

Bird, J. Douglas
How the Boy Scout Jamboree Was Protected Against Fire 828
Bruno, Hal
Kathmandu Fire Brigade Protects Half Million in Historic Capital of Remote Nepal 430
Burns, Frank C.
Quick Destruction in Grand Rapids Boat Yard Fire 434

DeGaeta, Paul F.
Chemical Terminology in Fire Protection 423
Theory and Application of Wet Water 790, 1208
Ditzel, Paul C.
Among the Buffs .. 57, 156, 242, 356, 453, 566, 840, 956, 1052, 1142, 1220
Drilling, Jerome
More Effective Fire Hose Recoupling 42
Duke, T. Seddon
"The Burned Building Had No Sprinklers!" 794
Dunne, John B.
Heads Win—Lungs Lose 534

Fitzgerald, William
Fire Prevention for Sale! 935
Grinrod, J.
Foam-Filled Hose for Confining Spilled Oil at Ports 227
Gruber, Charles W.
Cincinnati Declares War on Hazardous Gas Heaters 138

Heinl, R. D., Jr.
Many Multiple Alarms Plague District of Columbia Fire Fighters 618
Holmes, Edward C.
Mobile Foam Equipment Plays Bigger Role in Controlling Fire in Refineries and Chemical Plants .. 802

Kearney, Paul W.
Better Sell Automatics! 800
Klinck, John C.
Stubborn Cob Fire Presents Unusual Problems 228
Klinepeter, John D.
Tri-County Fire Forces Fight Harrisburg's Second Largest Fire 432

Meek, Clarence E.
Saga of the Steamer 536
Log of the Nation's Fireboat Fleet 758, 938
Mendelssohn, Paxton
A Fire Commissioner Views His Job 616
Miller, J. Coleman
Mutual Aid Forces Battle Armory Fire 40
Miller, William L.
Consolidated Fire and Police Departments 132
Misner, Gerald E.
Fire-Retardant Paints 824
Mullin, C. B. and Nelson, H. M.
$200,000 Upper Darby Bank Fire .. 937

O'Brien, Donald M.
Better Traffic Control Continues to be the Fire Service's No. 1 Response Problem 792
Putting More Power into Plant Fire Protection 326
Oliver, Tom
Separate Fire Departments Share Same Quarters and Similar Problems in Rural Kansas 1205

Porter, Rod A.
Navy-Civilian Cooperation Features Operation "95" at Great Lakes . 540
Quinn, Robert
Chicago's Fire Department Has Flexible Radio System 1202

Reaves, Troy
Hoboes Speed Demolition—With no Thanks from Firemen 1211
Rosenberg, Stanley A.
Thru the Architect's Eyes 222
Ryan, Thomas D.
Specialization Keynotes Operations of Supervising Engineer Units 780, 1032

Schwengel, Herman
Preventive Maintenance—From the Administrative Viewpoint 774
Sister M. Henrietta
Cooperation Leads to Safety for Hospitals' Patients and Firemen . 1120

Weintraub, Arnold A.
Chemical Terminology in Fire Protection 423
Theory and Application of Wet Water 790, 1208
Williams, Lester L.
Chronology of a General Alarm Fire 330

Wischer, Edward E.
Preventive Maintenance—From the Administrative Viewpoint 774
Woolley, Roi B. (See Editorials)
Increasing Use of Hazardous Metals Poses New Extinguishing Problems 796
Salvage Series 44, 134, 233, 334, 428, 624, 944, 1044

CONTRIBUTORS

Ames, Norton T. 1156
Baal, C. 564, 437
Bartosz, R. C. 963, 1230
Bradshaw, J. W. 852
Brown, Thad 1136
Carpenter, R. L. 963
Conway, Robert S. 1245
Cooper, N. V. 379
Daly, Jerry 144, 548, 635
Dektar, Cliff
70, 146, 165, 176, 340, 354, 355, 371, 439, 468, 469, 581, 642, 1042, 1068
Ditzel, Paul C. 146
Eames, H. L. 1080
Evans, Bert 1066
Hanson, Henry T. 853
Holz, Pat 1068, 1231
Huffman, R. P. 62
Jebens, John H. 576
Johnson, I. H. 564, 435, 473, 554, 642
Magner, Tom . .63, 186, 187, 543, 615, 855, 1069, 1080, 1213, 1228, 1241
McCarthy, Tom 1061
Morse, Sydney F. 635
Noah, Jim 1085
O'Hearn, John W. 1151, 1228
Olson 803
Patterson .. 54, 154, 240, 346, 444, 556, 630, 838, 954, 1050, 1134, 1218
Popp, Perry O. 570
Sprangers, Edward 243
Short, E. F. 576
Wymbs, K. W. 646

SPECIAL BINDERS

SAVE YOUR COPIES

Every issue of FIRE ENGINEERING has something in it that you want to keep for future reference. If you have one of our standard handy binders, you will have every article at your fingertips and a complete yearly index of everything we have published. The binder holds 24 issues and two yearly indexes.

Price $3.00

BOOK DEPARTMENT

FIRE ENGINEERING

305 East 45th St., New York 17, N. Y.

ELKHART'S PORTABLE

deluge NOZZLE

completely new!

- Easy to carry—attach hose and it is ready to use.
- Automatic clapper valves in all inlets permit attaching extra hose lines while nozzle is in operation.
- Nylon ball bearing swivel connections assure easy operation of the turret which revolves 360°.
- Eight inch diameter hand wheel with 3″ revolving handle, worm gear operated, directs stream up or down through an elevation of 90°.
- Locks to the desired elevation and horizontal position.
- "O" ring seals on all movable connections with Zerk fittings for lubrication.
- Free straight water way without obstructions reduces friction loss to a minimum.
- Stream shapers in 3″ extension pipe eliminate feathering assuring a solid stream.
- Hardened steel spikes on base prevent creeping, turnover or any movement. Has two carrying handles.

NO. 287

Recommended for use with Elkhart J or JN 200 for master fog streams.

ELKHART BRASS MFG. CO., INC.

ELKHART, INDIANA

ADVERTISING INDEX

FIRE ENGINEERING

JANUARY, 1958

	Page
Akron Brass Mfg. Co., Inc.	59
Aluminum Ladder Co.	16
American Fire Pump Co.	27
American LaFrance Corp.	19
Ardmore Products	6
Bar-Way Mfg. Co.	58
Bean Div., John; Food Machinery & Chemical Corp.	23
Bi-Lateral Fire Hose Co.	58
Blackinton & Co., Inc., V. H.	57
Body Guard Mfg. Co.	73
Braxmar Co., Inc., C. G.	64
Cairns & Bro., Inc.	66
Champion Sprayer Co.	63
Circul-Air Corp.	Inside Back Cover
Cornelius Co.	67
Eastman Co., Inc., Samuel	15
Elkhart Brass Mfg. Co., Inc.	82
Emerson Co., J. H.	Inside Front Cover
Everson-Ross	70
Fabric Fire Hose Co.	5
Federal Sign & Signal Corp.	3
Four Wheel Drive Auto Co.	Back Cover
Fyrepel Products Inc.	66
Fyr-Fyter Div., Fyr-Fyter Co.	24
Gamewell Co.	28
Goodall Rubber Co.	11
Goodrich Industrial Products Co., B. F.	7
Graflex, Inc.	54
Greenberg's Sons, M.	65
H & H Fire Apparatus Corp.	66
Hale Fire Pump Co.	64
Halligan, M. A.	62
Halprin Supply Co.	63
Hanford Brown Co.	75
Hein-Werner Corp.	12–13
International Harvester Co.	16–17
Janesville Apparel Co.	70
Johnson Motors	53
Leece-Neville Co.	22
McIntire Brass Works, Inc., F. N.	72
Macchi & Co.	71
Mack Fire Apparatus	8–9
Mann Edge Tool Co.	71
Marine Products Co.	58
Medical Supply Co.	73
Memco Aerial Ladder	67
Midwestern Safety Mfg. Co.	14
Morning Pride Mfg. Co.	73
Motorola Communications & Electronics, Inc.	10
Mueller Co.	72
North American Signal Co.	26
Oberdorfer Foundries, Inc.	62
Onan & Sons, Inc., D. W.	60
Plectron Corp.	73
Potter-Horn, Inc.	73
Powhatan Brass & Iron Works	20
Pyrotronics Division, Baker Industries, Inc.	73
Quaker Rubber Div., H. K. Porter Co., Inc.	59
Rockwood Sprinkler Co.	25
Russell Uniform Co.	73
Sharpsville Steel Fabricators, Inc.	76
Smith & Co., D. B.	56
Sterling Siren Fire Alarm Co., Inc.	68
Super-Vacuum Mfg. Co.	66
U-C Lite Mfg. Co.	72
W-B Manufacturing Co.	61
Ward LaFrance Truck Corp.	21
Washington Products Co.	69

G

NG

Pag

51
11
27
19
4

51

23
53
57
72
44

68
63
Back Cover
67

13
83
Front Cover
70

5
3
Back Cover
66
24

28
11
7
54
69

68
64
62
63
75
12-13

16-17

70
53

22

72
71
8-9
71
58
72
67
14
73
10
72

26

63
69

73
73
29
72

59

25
72

70
58
68
66

IN

72

61
21
69

ERING